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ABSTRACT

Prior Learning Assessment (PLA) allows students to obtain credits toward their formal education for nonsponsored learning (i.e., material they have learned through non-traditional settings such as work experience or the home). Within the PLA framework, community colleges have implemented the portfolio development process as a way to assess prior learning--students organize and present nonsponsored learning in a document that satisfies the requirements of a college course. This exploratory case study examines how learners at Ontario Community Colleges (Canada) make meaning of their prior learning. In this study, data from interviews, a sample of portfolios, and classroom observations were initially analyzed according to five conceptual interpretations: (1) perception of learning; (2) learning style; (3) metacognitive abilities; (4) cognitive development; and (5) learners' needs. The study sample consisted of four students who were taking a community college portfolio development course, two students who had taken the portfolio development course and had successfully challenged a number of college credits, and three students who were eligible for the PLA process but did not take this option. The findings indicated that all of the students made meaning from their prior learning and applied it to their college studies. (Contains 146 references.) (KP)

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PRIOR LEARNING ASSESSMENT:

AN INVESTIGATION OF NONSPONSORED LEARNING FOR COLLEGE CREDITS

by

Kenneth William Blinkhorn

A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Department of Curriculum, Teaching and Learning
Ontario Institute for Studies in Education of the
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Doctor of Philosophy

1999

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Department of Curriculum, Teaching and Learning

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Since 1993, Ontario Community Colleges have systematically incorporated a framework for recognizing non-traditional learning through Prior Learning Assessment (PLA). PLA allows students to obtain credits towards their formal education for nonsponsored learning, that is material they have learned through non-traditional settings such as work experience or the home.

Within the PLA framework Community colleges have implemented the portfolio development process as a way to assess prior learning through organizing and presenting their nonsponsored learning in a document which can satisfy the requirements of a college course.

The research on PLA has been limited to surveys which examine the number and types of assessment used in PLA and procedures on preparing portfolios. There has been no research to date which examines how learners perceive their prior learning.

This exploratory case study examines how learners make meaning of their prior learning. The portfolio development process is used as a point of focus because it best represents the transition from

nonsponsored learning to the institution's interpretation of experiential learning.

For this study, I chose a setting which supported PLA, particularly the portfolio process. Data from interviews, a sample of portfolios and classroom observations were initially analyzed according to five conceptual interpretations: (a) perception of learning; (b) learning style; c) metacognitive abilities; (d) cognitive development; and (e) learners' needs. An emergent design allowed for other interpretations to be explored as the study progressed. A purposeful sample consisted of four adult learners who were taking a community college portfolio development course. I also interviewed two adult learners who had taken the portfolio development course and had successfully challenged a number of college credits.

Since not all mature students take the portfolio development course or challenge college courses through the portfolio development course I interviewed three students who were eligible for the PLA process but did not take this option.

The findings from this study showed that all of the students made meaning from their prior learning and applied it to their college studies.

Since PLA is no longer funded to the same extent as it was in the past, advocates of PLA at community colleges will need to address the benefits of the portfolio development. This could include both the acquisition of credits and personal development.

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CHAPTER 1. INTRODUCTION

This chapter will begin with an introduction to prior learning assessment. It will be followed by a prologue describing the events which initiated my interest in prior learning assessment specifically as it relates to the learner's role in the portfolio development process. I will then provide a brief description of prior learning assessment within a community college context. Finally I will present an overview of the dissertation.

Introduction to Prior Learning Assessment

Learning can and does take place outside a formal classroom setting. Individuals learn from their friends, television, radio, newspapers, self-study and on the job. The learning acquired from this type of experience is known as nonsponsored or prior learning. Nonsponsored or prior learning, therefore, represents the experiential learning acquired in a variety of contexts. Knowledge does not have to be limited to the transformation of information within the classroom. The process of acquiring knowledge in settings other than the classroom is often taken for granted. People may be unaware that learning outside a formal setting may be comparable or equivalent to that obtained in an educational institution (Wagemans and Dochy, 1991).

Educational institutions have recognized learning that occurs outside of a formal classroom and have made attempts to value such learning through the certification process. Kolb (1984), for example, pointed out the importance of experiential learning by

stating: "People do learn from their experience, and the results of that learning can be reliably asserted and certified for college credit" (p. 3).

Prior learning, also known as nonsponsored learning is the experiential learning which the adult learner brings to a course. This is different than sponsored learning which includes practicuums, internships, field placement and other experiential learning activities which are part of a course or program. Educational institutions have a long tradition of recognizing sponsored learning through formal education programmes.

Nonsponsored learning has been recognized in post-secondary institutions through Prior Learning Assessment (PLA). PLA represents a systematic process for accrediting learning from experience gained in a variety of contexts against standards required by the admitting institutions' courses and programs. Institutions which offer PLA services usually make use of three types of assessment methods: (1) Examinations; (2) Equivalencies; and (3) Portfolio assessment. Examinations and course equivalencies are similar to the traditional process of assessing formal learning and are used in both admission to or for advanced standing in a course or programme. The portfolio is a collection of information that demonstrates knowledge and/or skills acquired in non traditional learning environments (Wong, 1996). The portfolio is assessed by faculty to determine if the previously acquired nonsponsored learning is equivalent to the learning which someone would experience if they took a particular course.

Prologue

I currently teach accounting at an Ontario Community College. My only contact with prior learning assessment is in grading accounting challenge examinations. My interest in the portfolio process came about as a result of reading on experiential learning and a general dissatisfaction with the challenge examination as an appropriate way to evaluate prior learning. The following section will describe the events which initiated my interest in prior learning.

The accounting challenge examinations are prepared from a test bank based on a specific text book. The selected questions cover the outcomes of the course. Students prepare for the challenge examination by examining a course outline for which a challenge can be made, reading the required pages in the text book and attempting some problems. Although the challenge examination does reflect the outcomes of a specific course, it does little to take into account past learning experiences in non-school settings. Consequently, the challenge examination measures institutional learning and has little to do with nonsponsored or prior learning.

The portfolio, on the other hand, represents nonsponsored learning. A portfolio consists of supporting documentation pertaining to one's life history. While it is necessary to prepare a portfolio so that it can be successfully accepted by faculty for a course credit, it is also important that individuals learn from writing a portfolio.

Unlike the challenge examination which is prepared by faculty, the portfolio is prepared by students. It is the student's

responsibility to make sure that the learning outcomes in the portfolio are at a college level and can be identified with the learning outcomes of specific courses if certain courses are challenged. This observation is consistent with Wagemans and Dochy (1991) who identify two stages in the portfolio development process for which the student bears responsibility:

> The first stage is primarily the preparation of the portfolio: in this stage the task is to collect as much information as possible and data that the students can include in their portfolio. The second stage in the portfolio assessment process is concerned with the organization of the portfolio, with the object of presenting this as favourably as possible to the assessor. In fact it comes down to a synthesis and ordering of the material gathered in the previous stage. Only the elements that are actually important in the context of the course should be retained and considered for the award of credit points. (pp. 97-98)

In Earn College Credit for What You Know, Lamdin (1992) described how five adult learners used the prior learning assessment process to identify courses that they could receive credits at specific colleges. Each of these five learners prepared a portfolio and examples of their biography and other documentation were included in the book. Illustrations of course learning outcomes and institutional evaluation forms were presented so that the reader could examine the portfolio assessment process.

Portfolios may be prepared independently or students may enrol in a portfolio development course. With the assistance of faculty, students prepare their portfolios in a classroom setting. According to Mandel and Michelson (1990) the portfolio development course serves a unique purpose for both learner and faculty:

> In all cases, the central piece of prior learning assessment is the portfolio development course, for it is

> here that both the challenges of prior learning assessment and their resolutions converge. The context in which our students articulate their knowledge and request that it be translated into college credit is the nexus where student and institution meet and in which we became the translators, so to speak among varied cultures of knowledge. How we help our students negotiate to academic ways of seeing and view their knowledge both in its own and in academic terms can mean the difference between success and failure both for our students and our institutions' ability to serve them. (p. x)

These sources have a common theme. They address the active participation and responsibility of the learner in the portfolio development course. These references are directed at faculty and administrators with respect to students' needs and responsibilities.

Three major studies (Baker, 1981; Thomas, 1989; and Isabelle and Associates, 1994) surveyed the use of prior learning assessment in Canadian post-secondary institutions for admissions and advanced standing. Their findings reported the number of students who used prior learning assessment services at post-secondary institutions.

Since educational institutions have the responsibility for awarding credit for prior learning, they are concerned about the outcomes of that learning. They are particularly interested in whether or not prior learning equates with college-level learning. Consequently the academy has taken a narrow view of experiential learning. The prior learning considered most important is that which can be equated to specific learning outcomes in college courses. Michelson (1996a) identified this relationship as follows:

> There is, then, nothing disinterested or innocent about the process through which knowledge is given. Its valuing takes place through concrete social practices in which specific knowledge -- and, therefore, specific knowers -- are publicly and institutionally valued in which questions of epistemological authority explicitly confront questions of power inequality. APEL (Assessment

> of Prior Experiential Learning) relies on the power of the academy to determine what kind of knowledge "counts" and translates epistemological legitimacy into currencies -- credits, degrees professional credentials -- that lead to social status and material rewards (pp. 187-188).

Thomas (1991) confirmed that institutions which offer prior learning assessment could lead to significant educational reform if it took into account the learning acquired in both formal settings referred to as the "Educational Domain" and informal settings known as the "Learning Domain". Thomas (1991) elaborates:

> The greatest importance of prior learning assessment, however, lies in its promise of allowing greater functional exchange between the Learning and Educational domains which could lead to significant reform of the latter (p. 181).

Both Michelson and Thomas examined the institution's response to learners. Rather than focusing on the institutions, I thought about investigating the learners themselves. How do these learners view their prior learning? At a conference on Prior Learning Assessment in 1996, two observations initiated my curiosity of a learner's perspective on their prior learning. Many sessions had success stories from faculty who had taught the portfolio development course. They had noticed an increase in students' self-esteem. This is one benefit from the portfolio development course that is not explicitly stated in the course outcomes.

The final plenary session, at the same conference, included comments from a group of students who had prepared portfolios and were progressing in their programs. Although they identified many benefits of the portfolio development course, they related two areas of concern. One concern was that the portfolio took too long to complete. The other concern dealt with frustration from faculty

assessing portfolios for credit. These observations along with a lack of research examining a student's perspective on prior learning confirmed my belief that greater understanding of experiential learning from a learner's perspective would provide a contribution to the research on prior learning.

Background of Prior Learning Assessment in the Community College

Since 1993, Ontario Community Colleges have systematically tried to incorporate an institutional framework for recognizing nonsponsored learning through prior learning assessment. Prior learning assessment (PLA) allows students to obtain credits towards educational programs if they can demonstrate that they have learned the required material regardless of where the learning occurred. The attempt is to avoid the unnecessary duplication of content and skills and allow students to complete a program in a shorter period of time by allowing credit for learning from previous life experiences.

PLA has many potential benefits: it improves the access to college education and training; it helps eliminate duplication of learning; it reduces the cost of college education; it facilitates personal growth of the learners; and it promotes respect for adult learners as full participants in the life-long process of learning (Update on activities of Prior Learning Assessment Advisory and Coordinating Group, 1992).

By September of 1996, the Council of Regents in the *Final Report* (1992) to the Minister of Colleges and Universities, recommended that students could challenge up to seventy-five percent

of the courses in a particular college program.[1] The colleges have responded to this need by implementing two sources of assessment of prior learning:[2]

1. The challenge process which refers to tests, interviews, projects or case studies that are developed by college faculty; and

2. Portfolio development where students complete a portfolio based on prior experience and indicate through appropriate documentation which learning experiences are equivalent to specific college credit courses.

In both forms of assessment, subject specialist faculty determine if a student has demonstrated an understanding of a course for which a challenge has been made. Prior learning assessment has received both faculty and administrative support. Faculty support comes from the setting and grading of challenge examinations, assessing portfolios, teaching the portfolio development course and providing counselling services to students. The policy of awarding up to seventy-five percent of courses through PLA and establishing Prior Learning Assessment Facilitators has been initiated by the administration at each college.

The challenge process is the most common form of prior learning assessment. Since challenge examinations are directly linked to specific courses, faculty generally prefer this form of assessment.

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[1]This is covered under the residency requirement at colleges as explained in the definition section.

[2]Prior learning represents learning acquired in non-school settings such as the workplace or the home. Prior learning is also known as non-institutional learning or non-sponsored learning.

Overview of Dissertation

The next chapter presents a rationale for the study, addresses the major research question and defines principal terms. The study is then briefly described.

The literature review examines research on prior learning assessment and experiential learning by focussing on non-sponsored learning. A framework for viewing a learner's perspective is described. The portfolio as both an instructional and assessment tool is also discussed.

The methodology chapter describes the design of the study, setting, selection of participants, procedures, underlying assumptions and data analysis.

Chapter five provides case studies of the participants. These case studies represent the learners' profiles. The learners' profiles includes both professional and personal information.

The next chapter provides an interpretation of the findings. Selected themes related to the research issue form the focus for the five conceptual interpretations. These include: (1) perception of learning; (2) learning style; (3) metacognitive abilities; (4) cognitive development; and (5) learners' needs. The findings from the emerging interpretations are presented. These include: (1) influence of instructor; (2) experience with portfolio assessment; and (3) institutional barriers.

Chapter 7 examines the findings in more detail, relating them to the literature to compare data from the study with themes emerging from the data.

The final chapter concludes the study by investigating challenges and recommendations for further research.

CHAPTER 2. PURPOSE OF THE STUDY

Rationale

Adult students make meaning of their prior learning in a variety of ways. They enter college with a variety of experiences in work situations, recreational activities, social arrangements and a maturity factor much different than students entering college directly from high school. They bring with them a variety of cultural traits which influence their learning styles. As these adult learners who choose PLA engage in the portfolio process they must make decisions such as selecting which prior learning experiences are to be included in the portfolio. The portfolio development course provides a framework with which the adult learner can organize his or her prior learning experiences, show them as representing college level learning and relate them to outcomes of specific college courses.

In addition to the concrete setting of the portfolio development course which provides a framework for learners to choose certain prior experiences over others, the portfolio is shaped by the learner's abstract understanding of his or her past learning. Thomas (1991) identified three domains where individuals make decisions about their management of learning. These were: (1) The Social Domain; (2) The Learning Domain; and (3) The Educational Domain. In all three domains people make decisions individually or collectively. Daily life activities primarily occur in the Social Domain. Individually, hunters, farmers and industrial workers

provide necessities and comforts for themselves and their families. Collectively smaller groups compete to decide which needs are most important and how they may be met.

When a person wishes to translate a need not met in the Social Domain into a need for learning it occurs within the Learning Domain. There are two types of learning outcomes that occur within this domain. The first represents dramatic learning associated with discovery, invention and research. It is learning which no one has ever known before. Its success requires the freedom to make mistakes without destroying the learner or learning enterprise. A second outcome in the Learning Domain occurs when a person learns something that he or she did not know before although others may have already known about it.

A person enters the Educational Domain when they wish to translate some of the learning needs into educational needs. An educational need can only be satisfied when one enters some part of an education system whose primary function is teaching.

The purpose of the portfolio development course is to provide a framework so that what occurs in the Learning Domain can be recognized as a vital ingredient of the Educational Domain. Institutions that offer PLA services attempt to validate the learning which occurs in the Learning Domain within the Educational Domain. Not all prior learning is considered significant by formal institutions. The learning considered important is the learning from experience that can be identified at college-level. The learner may have an understanding of how he or she knows something

and may have other experiences that enhance personal knowledge. However, the structure of the portfolio development course may determine which learning experiences a learner may select and that may narrow a learner's perception of prior learning.

Since the portfolio development course is taught in a classroom, this setting may impose a feeling in the portfolio process. As a result, success in the portfolio development course may have some relation as to how the adult learner feels back in the classroom or in school.

Although there has been no research of a learners conception of prior learning within PLA, cognitive science has addressed issues such as how individuals reflect on their learning. Some cognitive psychologists, such as Kelly (1955), described how individuals viewed the world by examining their personal construct system. Kelly developed the Repertory or REP Test to identify an individual's personal construct composition which was based on implicit theories. These implicit theories were developed intuitively from everyday decisions. Hunt (1987) elaborated on these ideas and developed a matching model. He identified the importance of implicit theories based on intuition and the importance of tacit as compared with propositional knowledge. Hunt believed that practitioners such as teachers and counsellors generate implicit theories based on their practice. Hunt (1987) describes: "Your common sense ideas, and your unexpressed theories growing out of your personal experience, provide enormously rich sources of knowledge about human affairs" (p. 1).

Others expanded on the importance of tacit knowledge. Schon (1983) called for a need for professionals to reflect on their action as they engaged in practice. This reflection, he believed, would lead to increased competence within the professions. Kolb (1984) developed a learning style inventory which identified four stages of learning ranging from concrete to abstract. Gardner (1983) identified seven intelligences that an individual could possess which could explain why some individuals excelled in one area such as mathematics while others performed better in artistic pursuits. Through professional practice, learning styles, and alternate views of assessment, Schon, Kolb and Gardner believed in the importance of reflection as a way of incorporating tacit knowledge learned from experience. These psychologists offer a focus for viewing experiential learning which could be particularly useful to examine how learners engaged in the portfolio process perceive their prior learning.

Research Question

The purpose of the study is to describe how learners perceive their prior learning. The portfolio development process will be the vehicle for presenting a learner's view on their experiential learning. This study will address the following research issue:

How do learners understand and create meaning from their prior learning?

To provide a focus for the research issue, this study considers the following questions as a way of organizing the interpretations of (a) perception of learning, (b) learning style, (c) metacognitive

abilities, (d) evidence of learning and (e) learner's needs. These questions will be followed by a brief description which will outline the conceptual framework for the study.

1. *What is the learner's perception of knowledge and learning?*

As learners engage in the portfolio process they have an opportunity to come to an understanding about their prior learning. The portfolio process allows individuals to reflect on their past experiences and organize them in a way which not only allows them college credit(s) but may give them an opportunity to come to some understanding of the significance of those life experiences.

2. *Are learners who engage in the portfolio process aware of their particular learning style?*

The portfolio process allows learners to reflect about their learning. Adult learners may be aware of their learning style because they have had to investigate their prior work and recreational experiences and determine the learning associated with those experiences. Although they may not identify their learning according one of Kolb's quadrants, individuals may find that they prefer tasks that require concrete applications rather than dealing with theoretical constructs that are more abstract.

3. *Do metacognitive abilities become evident during the construction of a portfolio?*

Schon (1983) described a baseball pitcher who knew when to throw a curve ball, a fast ball or a slider. He described that as a pitcher "feeling the groove" of a baseball game. He described this tacit ability as knowledge in action. Similarly Gardner (1983) referred to some intelligences that can only be described tacitly.

Gilbert Ryle (1949) referred to this as the difference between knowing how to do something and knowing about something. Metacognition refers to the ability of an individual to understand how he or she comprehends a principle, a concept or a procedure. For example, some may describe themselves as visual learners while others may see themselves as aural learners. As learners understand their metacognitive abilities they may experience positive feelings such as improvement in their self-concept, self-efficacy and self-esteem. As learners prepare their portfolio, they have an opportunity to reflect on their learning. In this way, they can explore whether their metacognitive abilities become evident during the construction of the portfolio.

4. *Is there evidence of cognitive development while preparing a portfolio?*

When learners identify their prior learning experiences, write autobiographies, and organize a portfolio, they are using and perhaps improving academic skills such as organization and communication. Stated another way, cognitive development can occur if academic skills improve. Also in preparing autobiographies cognitive development may occur when the learners realize that learning occurs in both institutional and non-institutional settings.

5. *What needs of the learners have been met or have not been met by the portfolio process?*

Learners have many expectations when they enroll in the portfolio development course. One expectation is to receive credit for their prior learning. This expectation will either be confirmed

or altered when learners proceed through the portfolio process. Learners, therefore, have a variety of needs which will either be met or not met while they are engaged in the portfolio development course.

Definitions

In order to clarify the usage of various terms in this study, the following definitions are offered. These definitions are divided into two sections. The first section relates to prior learning assessment. The second set of definitions relates to the conceptual framework and attempts to clarify terms when examining a learner's perspective of prior learning.

Definitions relating to Prior Learning Assessment

Challenge Process: Methods of assessment other than portfolio, developed and evaluated by subject-expert faculty to measure an individual's learning achievements against course outcomes. It measures demonstrated learning through a variety of written and non-written evaluation methods, for the purpose of awarding credit without requiring enrolment in a course (Prior Learning Assessment Advisory and Coordinating Group, 1995, p. 56).

Course (Credit): A course whose successful completion provides credit or credits towards a college certificate or diploma or other academic accreditation (PLA Advisory and Coordinating Group, 1995, p. 57).

Courses Eligible for Challenge: Those courses which have clear statements of learning outcomes, areas of content, criteria for success, and specified assessment methodologies, and which are available to candidates within a reasonable period of time (PLA Advisory and Coordinating Group, 1995, p. 57).

Learning Outcomes: Describe what the learner should know and be able to do in order to be granted credit for a course. Some learning outcomes may be deemed essential; others may be optional or desirable. Content and contexts in which learning has been achieved is less important than the demonstration of

its achievement (PLA Advisory and Coordinating Group, 1995, p. 42).

Portfolio: The comprehensive portfolio is a dossier or collection of material which identifies individuals' achievements, documents their experiences and analyzes and organizes the knowledge and skills acquired. The portfolio is developed by the student and then used to request college recognition for the learning identified. Typical components of a portfolio includes a Life History Paper or Autobiography, Learning Outcomes or Competencies, Educational Plan, Documentation and Resume (Ontario Council of Regents, 1995, p. 6)

Portfolio Assessment: The critical review by subject-expert faculty of a dossier produced by a PLA candidate to document prior acquisition of the knowledge and skills taught within a course and to gain credit for that course. This assessment is distinct from challenge assessments and does not require enrolment in any course (PLA Advisory and Coordinating Group, 1995, p. 58).

Portfolio Development Course: A course designed to assist learners to analyze and document their learning, plan their vocational and/or academic career, and to request college course credits for their learning. Portfolio development courses are a PLA activity funded by the Ministry of Education and Training (PLA Advisory and Coordinating Group, 1995, p. 58).

Prior Learning Assessment: A process which uses a variety of tools to help learners reflect on, identify, articulate, and demonstrate past learning which has been acquired through study, work, and other life experiences, and which is not recognized through formal transfer-of-credit mechanisms. PLA allows for the valuation of past learning against established academic standards so that credit can be awarded by a credentialling body (PLA Advisory and Coordinating Group, 1995, p. 58).

Prior Learning Assessment Facilitator: Usually a faculty member responsible for counselling learners through the PLA process, i.e. enrolling student in portfolio development course, arranging the assessment of portfolios, challenge examinations, or other forms of assessment with other faculty. (This definition did not appear in the above cited reference, but is a my description for the term)

Residency Requirement: The minimum number of credits (or length of time) that must be taken through courses under the direct supervision of faculty of the credential-issuing college in order to obtain that credential (PLA Advisory and Coordinating Group, 1995, p. 58).

Subject-expert faculty: A faculty member who is thoroughly familiar with the learning requirements and assessment methods and tools of a particular course and is in the best position to evaluate an individual's learning in relation to that course. Typically, it would be a faculty member who teachers or has taught the course at the college (PLA Advisory and Coordinating Group, 1995, p. 42).

Definitions relating to the conceptual framework in this study

Cognition: Umbrella term for the processes of perception, discovery, recognition, imagining, judging, memorizing, learning and thinking through which the individual obtains knowledge and conceptual understanding or explanation. Distinct from emotional processes (Page & Thomas, 1977 p. 70).

Cognitive Development: Development of various cognitive aspects of the intellect (Page & Thomas, 1977 p. 70).

Constructivism: Viewpoint in learning theory and child development which holds that a child actively constructs his/her own ways of thinking as a result of innate capabilities interacting with his/her experience (Page & Thomas, 1977, p. 84).

Constructs: Man looks at his world through transparent patterns or templets which he creates and then attempts to fit over the realities of which the world is composed (Kelly, 1955, pp. 8-9).

Construing: Placing an interpretation: A person places an interpretation upon what he or she construes (Kelly, 1955, p. 50).

Experiential Learning: Learning in which the learner is directly in touch with the realities being studied. It is contrasted with learning in which the learner reads about, talks about, or writes about these realities, but never comes in contact with them as part of the learning process (Keeton & Tate, 1978, p. 2).

Learning: 1. Learning is a process whereby knowledge is created through the transformation of experience (Kolb, 1984, p. 38). 2. Learning is used in educational psychology to refer to a relatively permanent change in behavior that is the result of past experience, either produced incidently or through institutional learning through teaching (Page & Thomas, 1977, p. 204).

Learning Style: Preferred mode of problem-solving, thinking or learning used by an individual (Page & Thomas 1977, p. 203).

Metacognition: Describe our knowledge about how we perceive, remember, think, and act --- that is what we know about what we know (Metcalfe & Shimamura, 1995, p. xi).

Nonsponsored Learning: Experiential learning which does not occur through a an institution of higher education. Also known as prior learning (Keeton and Tate, 1978, p. 4).

Perception: Process by which the individual organizes and makes sense out of his/her sensory experience. We structure our environment through perceptual processes (Page & Thomas, 1977, p. 261).

Sponsored Learning: An experiential learning activity that occurs in the context of an institution of higher education where the learner is officially registered and the activity is an acceptable part of the student's program of studies (Keeton and Tate 1978, p. 4)

Theory: 1. Philosophically, a logically deduced construct isolated from its application. 2. Scientifically, systematic laws based on observation and knowledge which remain true until proved inaccurate or irrelevant by new data (Page & Thomas, 1977, p. 342).

Theories of Knowledge: Or epistemology. Those theories concerned with origin, nature and limitations of knowledge (Page & Thomas, 1977, p. 342).

Description of the Study

This exploratory case study examines the adult learner's perception of prior learning. More specifically, the adult learner's understanding and transfer of their prior learning towards formal educational programs.

Three groups within a college setting are identified. The first group consists of four adult learners who are taking the portfolio development course and constructing their portfolios. The second group consists of two adult learners who have completed their portfolios and are in the process of challenging courses for credit. Data were collected from interviews and portfolios from these two

groups. The third group consists of three students who did not take the portfolio development course as part of their college program. Data were collected from interviews from this group. I focussed on non-sponsored learning because it is the type of learning experiences represented in a portfolio.

Through the use of an emergent design, I established five interpretations with the possibility of including other interpretations as the study progressed. These interpretations were: (1) perception of learning; (2) learning style; (3) metacognitive abilities; (4) cognitive development; and (5) student needs. As the study progressed other interpretations emerged: (1) influence of instructor; (2) experience with portfolio assessment; and (3) institutional barriers. Both administrative and participant consent was provided in the study (see appendix).

CHAPTER 3. LITERATURE REVIEW

A systematic review of the literature was conducted to support the purpose of the study. Two principal sources used in the review of literature included documents from Resources in Education (RIE) and the Education Index. A computer search from the Education Resources Information Centre (ERIC) with the following descriptors-prior, learning, assessment, portfolio and college -- yielded 22 studies and 14 articles from professional journals. The search was extended by contacting the Council of Regents which supplied two annotated bibliographies and the First Nations Technical Institute which has extensive material on prior learning assessment.

The purpose of this review is to examine the literature on prior learning. The literature review is divided into two parts. The first part deals specifically with prior learning assessment and the portfolio process. The literature review on prior learning assessment at the post-secondary level indicated that there were three main areas of research: (a) surveys which dealt with the utilization of prior learning assessment; (b) case studies that described PLA systems at post-secondary institutions; and (c) prior learning assessment methods which deal with procedural questions. Many of these method books are in the form of manuals and materials produced for the portfolio development course. The review continues with a philosophical view describing a conceptual foundation of experience. In addition to assessment, the portfolio has been used for instructional purposes and faculty evaluation and promotion. These areas are also investigated.

The second part of the review of the literature attempts to come to some understanding about how learners perceive their experiential learning by reviewing contributions made primarily from cognitive psychologists. The areas in this section of the review include tacit knowledge, implicit theories, learning styles, problem-solving, metacognition and self evaluation.

Utilization of Prior Learning Assessment

There have been attempts to determine the utilization of prior learning assessment at the post-secondary level. This section will summarize that research from three perspectives: (i) the United States experience of rewarding prior knowledge through credit-by-examination programs and the portfolio process; (ii) the Canadian experience describing the utilization of prior learning assessment at post-secondary institutions; and (iii) a description of internal prior learning assessment initiatives at Ontario community colleges.

The United States Experience

In the United States many colleges have adopted a credit-by-examination concept which has a long tradition. Since 1955 the Educational Testing Service administered the Advanced Placement Examinations which assessed high school students for advanced placement into college programs. This was followed in 1963 when the New York State Education Department established the College Proficiency Examination Program (CPEP). Outside of New York state these are known as American College Testing Proficiency Examination

Program (ACT PEP) tests and are administered by the American College Testing Program.

Building on this model, the College Board along with support from the Educational Testing Service introduced the College Level Examination Program (CLEP) and is one of the two most used credit-by-examination programs in the United States. It offers thirty to fifty subject examinations in the arts, sciences, and business and five general examinations which are less course specific and cover material taught in the humanities, social sciences, natural sciences, mathematics and English.

Another popular testing program, the Defense Activity for Non-Traditional Education Support (DANTES) was originally developed for military use. However, they are now available for citizens. These subject standard tests are similar and have the same credit value as other examinations. There are also a number of DANTES titles in technological and occupational areas (Jacobs and Gulliver, 1988, p. 57).

Given this proliferation of testing batteries Jacobs and Gulliver (1988) concluded that: "the APP, ACT, PEP, CLEP, and DANTES batteries offer over 150 separate standardized examination titles in the arts and sciences, business, nursing, computer science, education, technology and occupational areas" (p. 57).

In the United States the Council for Adult and Experiential Learning (CAEL), a full time organization concerned with providing credit for experiential learning, has been an active participant in prior learning assessment. CAEL has worked with the Educational Testing Service in developing and implementing usable instruments

for assessing prior knowledge.

In 1984 CAEL conducted a national survey and found that over 1200 American academic institutions were involved with PLA. In 1991, a second survey revealed that a further 290 institutions had implemented PLA (Fugate & Chapman, 1992). More recently CAEL has been active in the workforce designing programs to assist employees in gaining recognition of skills learned on the job. It has also asked for contributions to its journal, *New Directions in Experiential Learning,* published three important handbooks (Willingham, 1977; Simosko and Associates, 1988; and Whitaker, 1989) and sponsored many conferences on prior learning assessment. As a result of these initiatives, alternatives to credit-by-examination found support in the notion of portfolio assessment.

Many colleges in the United States have established procedures for creating a portfolio. The Portfolio Assessment Handbook (1990-1992) at Thomas A. Edison State College in Trenton, New Jersey, identified five steps in creating a portfolio: (i) taking an inventory of one's knowledge; (ii) choosing the area for which one wants credit; (iii) finding course descriptions to match one's learning; (iv) providing evidence of one's knowledge; and (v) describing what one knows and how one knows.

This handbook followed the model prescribed by the Council for Adult and Experiential Learning (Knapp and Gardiner, 1981) which was based on the principles of experiential learning described by Willingham (1977). According to this model there are eight stages involved in the preparation and assessment of portfolios: (1) Make a study plan which becomes the focus of the portfolio; (2) Prepare

time charts or autobiographies as a preparatory stage for determining the learning results from their experiences; (3) Clarify the results in outcomes statements; (5) Document the learning results; (6) Demonstrate that the learning exhibited in the portfolio shows what a student has learned in the past has been retained in the present; (7) Evaluation of the portfolio by qualified assessors; and (8) Determine and interpret learning so that it is understood by all parties. It is at this stage that the institution validates this form of assessment. This model reinforced CAEL's academic standards developed by Willingham (1977) and refined by Whitaker (1989):

1. Credit should be awarded only for learning, and not for experience.

2. College credit should be awarded only for college-level learning.

3. Credit should only be awarded for the learning that has a balance, appropriate to the subject, between theory and practical application.

4. The determination of competence levels and of credit awards must be made by appropriate subject matter and academic experts.

5. Credit should be appropriate to the academic context in which it is accepted.

The Canadian Experience

Prior learning assessment in Canada is a recent phenomenon. Baker (1984) was the first to survey prior learning assessment in Canada. An examination of her study reveals that there has been little written about the Canadian experience. Such an observation prompted Baker to report that: "A review of journal articles in education [e.g. Current Index Journals in Education Index, the Education Index, Canadian Education Index] over the past several years produced no articles about awarding credit for prior learning in Canada" (p. 13).

The exception to this lack of interest in prior learning was in Quebec. In 1982 a Study Commission on Adult Education recommended that the provincial government implement prior learning assessment throughout its educational system. Two years later the provincial government passed Article 25 of the Regulation Respecting the Basis of College Organization which established the priority of its public colleges known as Colleges of General and Professional Education or CEGEPS. The Quebec Ministry of Higher Education and Science financed the implementation structure for prior learning assessment. This was followed in January 1988 when the Department of Manpower and Immigration of Canada approved a three million dollar grant to Quebec colleges for the development of prior learning assessment (Thomas, 1989).

Thomas (1989) study was the first systematic attempt to determine the extent of prior learning assessment for admission and advanced standing in Canadian educational institutions. In a study involving 240 separate agencies consisting of 228 post-secondary

institutions and twelve ministries/departments of education, Thomas reported the following:

> Evaluation based on an applicant's previous academic record is the assessment procedure most used by both the universities (77%) and the colleges (87%). Interviews also figure prominently in the assessment procedures of both universities (75%) and colleges (86%). Although evaluation based on course performance ranked as the third most prevalent procedure used in the universities and ranked sixth in the colleges, the findings showed that proportionately more colleges (72%) than universities (68%) use this type of information in assessment. . . . There is also evidence that a majority of both types of agency base assessment on considerations of relevant work experience (universities - 65%; colleges - 84%); student portfolios (universities - 61%; colleges - 69%). . . . Although challenge examinations are used in the assessment procedure of 43% of the universities and 63% of the colleges and published tests, such as GED, GRE, LSAT, etc., are used by 42% of the universities and 63% of the colleges, the CLEP program of the College Entrance Examination Board is only used by 17% of the universities and 19% of the colleges. (p. 36)

As a result of these findings, Thomas (1989) concluded that: "a wide variety of assessment practices currently are being used to assess non-traditional learning, including greater use of challenge exams and written portfolios than previously suspected" (p. 36).

There were a number of provincial and institutional initiatives in prior learning assessment since the Thomas study. Isabelle and Associates (1994) surveyed the availability of prior learning assessment in post-secondary institutions and school boards and reported on the practices, interest and need for prior learning assessment among professional associations and companies in Canada. Three significant findings on the use of examinations and portfolios were:

1. Of the assessment methods used in schools, colleges and universities, credit by examination is the most

widely used one; assessment through portfolio appears to be in greater use by colleges (p. 5);

2. Seventy-five percent of colleges responded that they assess prior learning through examinations and portfolio assessment (p. 10);

3. Ninety six percent of Ontario community colleges use the examination method; 87% of Ontario community colleges use the portfolio method; and 26% of Ontario community colleges use methods other than examinations or portfolio for prior learning assessment (p. 27).

Other PLA Initiatives in Canada

The Canadian Labour Force Development Board (CLFDB), a national advisory body made up of labour market partners who advise the federal government on ways to improve training and increase access for the Canadian labour force supports the concept of PLA. The CLFDB conducted extensive consultation with labour market sectors on the development of a national PLAR (Prior Learning Assessment and Recognition) initiative. The result was a set of recommended National PLAR standards (CLFBD, July 1996):

1. PLAR must be accessible and relevant to people as individuals. It must focus on the unique needs and abilities of the individual.

2. Assessment and recognition must be of learning (knowledge, skills, and judgement acquired through study or experience) not of experience.

3. The PLAR process must be fair and equitable. It must be barrier-free and bias-free.

4. The PLAR process must be efficient. It must make use of resources for the individual.

5. The PLAR process must be effective. It must provide the opportunity for recognition of prior learning, but it must not hold out false promises.

6. The PLAR process must be transparent. The

individual must know the criteria and standards used to assess his or her skills and knowledge.

7. The assessment must be reliable. The criteria and standards must be recognized and respected by all the labour market partners. This principle applies to occupational and skill standards, the learning outcomes stated for specific course or training program, and the credentials required for a specific job or occupational group.

8. The assessment tools and their PLAR application must be valid. They must be recognized and accepted by all labour market partners.

9. Individuals assessing prior learning must be trained to perform this task.

10. The assessing organization must provide a number of ways to carry out an assessment. Individuals should have the opportunity to choose how their assessment will be done. If necessary, they should get help to make their choice.

11. Recognition awarded through PLAR should be considered equal to recognition awarded in the traditional manner.

12. Recognition awarded through PLAR should be transferable between organizations, provinces and territories.

13. PLAR must be an option or opportunity, not a mandatory process.

14. If a person is not satisfied with the PLAR assessment, an appeal procedure must be made available.

In August 1997, the Canadian Technology Human Resources Board (CTHRB) requested proposals for "Identifying Acceptable Prior Learning Assessment and Recognition Models" for use in their National Technology Career Credit Bank project. The contract was awarded to the Alberta Society of Engineering Technologists (ASET). Its prime aim was to define policy guidelines for the development of a national Prior Learning Assessment and Recognition (PLAR) system

for evaluating and granting credit for the prior leaning of applied science and engineering technicians and technologists. Before developing a model credit bank system, the CTHRB believed that research on the theory and practice of PLAR needed to be developed and commissioned an education consultant to report the findings. Eileen Bragg, the education consultant, presented a summary of the research findings in December 1997. The CTHRB believed that the research findings would: (a) provide a conceptual and theoretical framework for a PLAR model for participating agencies; (b) assist the Advisory Committee members of the project in their decision making of an acceptable PLAR model for the Credit Bank; and (c) offer guidance for the development of a policy handbook on PLAR for participating agents (Bragg, 1997).

Bragg (1997) identified the following benefits of PLAR to learners, employers, and educational and professional organizations. PLAR has the potential to benefit learners in a number of ways:

a) Entitle adults to exemptions and credit from courses

b) Make better use of time and resources

c) Increase opportunities for returning to learning

d) Serve as a basis for advanced placement in formal programs

e) Make entrance into and exit from an educational system easier and more flexible

f) Increase job mobility

g) Reduce duplication of learning

h) Reduce the costs of obtaining formal credentials

i) Provide equal access for groups who are currently disadvantaged

j) Increase motivation for learning

k) Raise self-esteem through the recognition process (p. 53)

PLAR provided for five benefits to employers:

a) a reliable means of assessing and matching skills to workplace needs

b) a framework for setting career goals and training needs

c) in house training designed for the needs of each workforce or for specific workers

d) access to a more diverse workforce

e) potential savings on training costs (p. 54)

PLAR provided the following benefits to educational and professional organizations:

a) Increases enrollment of new learners at a range of levels to replace gaps in class numbers created by attrition with acceleration of graduation rates as a result of reducing duplication of learning

b) Assists in more appropriate placement and transfer in programs and maintains retention of control over programming quality

c) Enhances faculty interest in program development through interdisciplinary discussions and involvement in the clarification of academic standards and expected learning outcomes

d) Enhances the institution's image through a public perception of responsiveness to the needs of learners with job and family responsibilities

e) Provides liaison opportunities with industry and other educational providers which may lead to research opportunities or other mutually beneficial relationships

f) CLFDB can assist institutions make better use of their time and resources and provide access to a wider range of potential learners (pp. 54-55)

In addition to the involvement of the federal and provincial

governments, Canada has strong advocates to promote PLA practice. The Canadian Association of Prior Learning Assessment (CAPLA) is composed of members from education, business, industry and unions across Canada. CAPLA is a national organization with an international mission. CAPLA provides resource materials, quarterly newsletters and an annual conference. CAPLA has recently developed a WEB Site.

The Ontario Prior Learning Assessment Network (OPLAN) is an informal provincial network interested in advancing the objectives of CAPLA. OPLAN provides professional development for its members, networking opportunities and strategies for maintaining, developing and sharing resources.

There are similar provincial advocacy groups in Manitoba, British Columbia and Nova Scotia. The Manitoba Prior Learning Assessment Network (MPLAN) formed in October, 1995 is an informal network of individuals interested in PLA. Its members are from education, industry, business and government. British Columbia established the "Institutional Coordinators Working Group" who represent colleges, institutes and universities involved in implementing PLA services. The Prior Learning Assessment Center in Halifax, Nova Scotia is a consolidated effort of six Halifax universities, the Nova Scotia Community College and the Native Council of Nova Scotia (Blower, 1996).

Prior Learning Assessment Initiatives at Ontario Community Colleges

The government of Ontario produced three major policy reports which supported the implementation of prior learning assessment in community colleges: ACCESS, Task Force on Access to the Professions and Trades in Ontario (1989); People and Skills in the New Global Economy (1990); and Vision 2000, A Review of the Mandate of Ontario's Colleges (1990) (Thomas and Klaiman, 1992, p. 9). Vision 2000 called for the "Formal recognition of students' previous learning and experience [as] one of the ways of putting lifelong learning into everyday practice. . . . It is time for Ontario to put prior learning assessment on a sound footing" (pp. 79-73). The prior learning initiatives at the Ontario community colleges have been summarized in a Report (1995) by the Prior Learning Assessment and Advisory Committee and Coordinating Group. This group reported to the Minister of Education and Training through the Council of Regents.

Research was part of the PLA Group's mandate. There have been a variety of pilot projects at several community colleges. Since 1992, there have been six projects on designing portfolio development courses. The following colleges have been active in this area: (1) Algonquin College of Applied Arts and Technology; (2) Humber College of Applied Arts and Technology in collaboration with Conestoga, St. Lawrence, and Sir Sandford Fleming colleges; (3) Loyalist College of Applied Arts and Technology; (4) George Brown College of Applied Arts and Technology; (5) Mohawk College of Applied Arts and Technology; (6) Seneca College of Applied Arts and Technology along with Mohawk College and TV Ontario. Other projects

have focussed on faculty development. Georgian College of Applied Arts and Technology along with Centennial, George Brown, Humber, Seneca and Sheridan colleges developed manuals to assist college staff in assessing prior learning. A similar project at Niagara College developed a training manual to assist faculty in preparing learning outcomes for courses eligible for challenge.

Conceptual Foundations of Experiential Learning and Prior Learning Assessment

Historically, the importance of experiential learning can be traced to apprenticeships from early societies to more formal systems such as universities. Apprenticeship training carried out by the craft guilds, chivalry training, private learning in nunneries, monasteries and the courts advanced in Medieval Europe. As industrialism replaced feudalism modern occupations took the place of crafts. Experiential learning was recognized in the late nineteenth century as the physical sciences, medicine and other professions examined practices to supplement contextual learning (Peruniak, 1993).

John Dewey (1938) made a significant contribution integrating experience and education. Dewey was careful to show that education and experience were not synonymous. In Experience and Education, he elaborates:

> The belief that all education comes about through experience does not mean that all experiences are genuinely or equally educative. Experience and education cannot be directly equated to each other. For some experiences are mis-educative. Any experience is mis-educative that has the effect of arresting or distorting the growth of further experience. (p. 25)

A person only learns from experience if he or she is receptive to it. Adults often have difficulty learning from experience because they cannot free themselves from previous experience, from standards and values that they have set and from what they have previously acquired . Also, adults may not see the relevance of their previous experience and be able to apply it to a new experience. Learning from experience is a cyclical process that adapts an old experience to a new one. It is the adaptation that gives the new learning experience meaning. Learning from experience is often referred to as experiential learning. Dewey (1938) described this as a principle of continuity (Wagemans and Dochy, 1991).

Advocates of Prior Learning Assessment, such as the Council for Adult and Experiential Learning (CAEL) were concerned with a specific type of experiential learning and offered the following definition:

> Experiential learning is defined as learning in which the learner is directly in touch with the realities being studied. It is contrasted with learning in which the learner reads about, talks about, or writes about these realities, but never comes in contact with them as part of the learning process. (Keeton and Tate, 1978, p. 2)

CAEL differentiated between two forms of experiential learning. These included prior or nonsponsored learning (what the student brings with him/her) and sponsored learning (what the student absorbs during a course):

> We speak of an experiential learning activity as sponsored if and only if it occurs in the context of an institution of higher education where the learner is officially registered and the activity is an acceptable part of the student's program of studies. Failing to meet any of these conditions, the experiential learning

is nonsponsored. (Keeton and Tate, 1978, p. 4).

Willingham (1977) identified CAEL's six steps in assessing experiential learning. Table 3.1 illustrates that the same steps apply to both sponsored and nonsponsored (prior) learning but there is a different emphasis between the two and more important, the order of steps varies.

Table 3.1: Six Basic Steps in Assessing Experiential Learning: Their Order and Applications to Prior and Sponsored Learning

STEP	PRIOR LEARNING	SPONSORED LEARNING
1. Identify	1. Identify college-level learning acquired through life experience.	2. Set specific learning objectives that fit the goals and the learning site.
2. Articulate	2. Show how and what parts of the learning are related to the degree objective.	1. Decide on general learning goals that are related to the degree objective.
3. Document	3. Verify or provide evidence of learning.	4. Maintain an integrated record as evidence of learning.
4. Measure	4. Determine the extent and character of learning acquired.	5. Determine whether learning meets the criterion standard previously set.
5. Evaluate	5. Decide whether the learning meets and acceptable standard and determine its credit equivalence.	3. Determine the appropriate criterion standard required for credit.
6. Transcribe	6. Record the credit or recognition of learning.	6. Record the credit or recognition of learning.

Source: Willingham (1977), p. 6.

Ontario Community colleges offer the portfolio development course as a way of recognizing the significance of prior or nonsponsored learning. This is illustrated in the following portfolio development course description taken from an Ontario community college:

> Much of adult learning does NOT take place in the classroom. Adults have learned a great deal from experiences acquired through their jobs, community involvement, volunteer work, and independent study. During the course, students will outline their personal,educational and career goals. They will produce a portfolio which will contain their up-to-date resume, a personal essay, a biographical history and an educational plan for the future. In addition, the student will have the opportunity to examine the learning which they have acquired over the years, to see if it is at "college level". After comparing what the student knows with certain course objectives, the student may want to have their learning assessed by a faculty member for credit in specific college courses.

The portfolio development course recognizes the value of nonsponsored learning in two ways: (1) by successfully completing a portfolio development course a student will receive a college credit; and (2) a student can use the same portfolio to challenge other courses for college credit(s).

In the United States, there are eight models of portfolio development. These are: (1) academic skills; (2) college orientation; (3) personal exploration; (4) the meaning of education; (5) careers; (6) introduction to a field; (7) the experience of work; and (8) degree design. These models can be integrated and colleges may follow more than one. The college orientation model is the most popular for Ontario community colleges, as the prime objective of the portfolio development course is to match prior learning with academic learning for credit. There are, however,

other models which use the portfolio more as an instructional tool. Mandell and Michelson (1990) collected papers from fifteen leading experts from twelve U.S. colleges[3] that offered these models. Personal exploration, meaning of education, and work experience give the learner the opportunity to investigate his or her own prior learning and relate it to a significant question other than the focus of the college orientation model. In this way, these portfolios are designed for personal development and the exercises in which the learner will engage are closely linked with the instructional process rather than being primarily concerned with assessment. Regardless of the purpose of the portfolio development course, the portfolio is a means of relating nonsponsored learning to sponsored learning.

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[3]These U.S. Colleges included: (1) Sinclair Community College; (2) School of New Resources, College of New Rochelle; (3) School for New Learning, DePaul University; (4) Office of Continuing Studies, The American University; (5) Office of External Programs, Vermont State Colleges; (6) University Without Walls, University of Massachusetts, Amherst; (7) The External Degree Program, The University of Alabama; (8) Alverno College; (9) Empire State College, State University of New York; (10) External Student Program, Ohio University; (11) Metropolitan State University; State University of New York; (12) College of Public and Community Service, University of Massachusetts, Boston.

Other Uses of Portfolios in Higher Education

In higher education the portfolio has been used as an instructional strategy to promote the development of basic writing skills. In 1989, the English Department of Fredonia College at the State University of New York began requiring portfolios from all students with a major in that department. Similar developments have occurred at Ohio University, University of Missouri and the University of Washington. The University of Washington has been assisted by the Educational Testing Service who do structured portfolio assessment in freshman English courses. The University of Missouri uses competency-based portfolios to assess students majoring in business (Courts and MacInerney, 1993).

In addition to improving student's growth, the portfolio assists peer tutors when helping other learners about their writing skills. A writing tutor from Fredonia College explains:

> I also find myself reading my writing in a different way. As I reread what I write, I step back and begin to ask myself questions about the paper I would probably use while tutoring. I am beginning to pick out the weaker points in my own writing that never would have occurred to me before. (Courts and MacInerney, 1993, p. 89)

Portfolios have had extensive use in faculty promotion in higher education. Seldin (1991) described how a teaching portfolio could serve as a guide for improved performance, promotion and tenure decisions. His research indicated that the portfolio has widespread use and actively supported by presidents of academic institutions and associations. In Successful Use of Teaching Portfolios (1993), Seldin reported that as many as four hundred colleges and universities in the United States used teaching

portfolios. Two years prior to this research about seventy-five colleges and universities had been experimenting with teaching portfolios. He summarized the case for portfolios as:

1. Portfolios provide documented evidence of teaching that is connected to the specifics and contexts of what is being taught.

2. They go beyond exclusive reliance on student ratings because they include a range of evidence from a variety of sources such as syllabi, samples of student work, self-reflections, reports on classroom research, and faculty development programs.

3. In the process of selecting and organizing their portfolio material, faculty think hard about their teaching, a practice which is likely to lead to improvement in classroom performance.

4. In deciding what should go into a portfolio and how it should be evaluated, institutions necessarily must address the question of what is effective teaching and what standards should drive campus teaching practice.

5. Portfolios are a step toward a more public, professional view of teaching. They reflect teaching as a scholarly activity. (Seldin, 1993, pp. 3-4)

Seldin (1993) identified the following steps for creating a teaching portfolio: (1) clarify teaching responsibilities such as courses taught, serving as a faculty advisor; (2) select items for the portfolio which are based on teaching responsibilities; (3) prepare statements on each item which are validated with appropriate documentation; (4) arrange items in order determined by their intended use; (5) compile the support data which would be either made available on request or placed in the appendix of a teaching portfolio; and (6) incorporate the portfolio into the curriculum vitae. Seldin (1991, 1993) believed that the portfolio served as a

useful document for both faculty and administration because it could be used for both personnel decisions and improving teaching.

Towards a Learner's Perception of Experiential Learning

A previous section described how prior learning assessment has interpreted the concept of experience. This section will elaborate on that point by providing further illustrations from authorities other than those who specifically advocate for prior learning assessment. This section of the literature review will investigate the contributions of cognitive science as to how individuals make sense of the world through their constructive processes. It is through this process that a learner's perception of their experiential learning will be addressed.

Tacit Knowledge, Implicit Theories and Learning from Experience

George Kelly, a cognitive psychologist, believed that individuals understood their world by developing a personal construction system based on patterns of experience. Kelly went on to describe that patterns were not developed from predictive formal theories but constantly changed according to an individual's constructive system which was limited by man's range of convenience:

> . . . man creates his own ways of seeing the world in which he lives; the world does not create them for him. He builds constructs and tries them on for size. His constructs are sometimes organized into systems, groups of constructs which embody subordinate and superordinate relationships. The same events can often be viewed in the light of two or more systems. Yet the events do not belong to any system. Moreover, man's practical systems have particular foci and limited ranges of convenience. (Kelly, 1955, p. 12)

According to Kelly, individuals could change their constructive system to adapt to new situations. He referred to this as constructive alternativism. Thus Kelly concluded: "Since man is always faced with constructive alternatives, which he may explore if he wishes, he need not continue indefinitely to be the absolute victim either of his past history or his present circumstances" (p. 43).

Kelly identified eleven corollaries to his basic personality theory: "a person's processes are psychologically channelized by the ways in which he anticipates events" (p. 47). The experience corollary which he added to the theory stated: "A person's construction system varies as he successfully construes the replication of events" (p. 72). This allowed Kelly to conclude that:

> The constructions one places upon events are working hypotheses, which are about to be put to the test of experience. As one's anticipations or hypotheses are successively revised in the light of the unfolding sequence of events, the construction system undergoes a progressive evolution. The person reconstrues. This is experience. (p. 72)

Hunt (1987) believed that practitioners could identify their implicit theories if they adopted an inside-out approach. The inside-out approach is based on beliefs developed from practical experience. It is in contrast to an outside-in approach where expert psychologists study events based on formal theories. Hunt described how important it was for practitioners to develop their implicit theories based on their experience using an inside-out approach. The following passage illustrates the success of an inside-out approach when Hunt (1987) taught a graduate course to a

group of teachers:

> Later, as teachers brought out their theories in my learning styles graduate course, I saw how valuable they were to the teachers themselves. As I shared their implicit theories with others in the class, I realized that practitioners' experienced knowledge is the cornerstone of any theoretical account of practice --- practice to theory. (p. 54)

In the inside-out approach, Hunt identified three Rs to assist him in understanding human affairs: (1) Reflexivity; (2) Responsiveness; and (3) Reciprocality. Reflexivity referred to self reflection or reflecting back on oneself. Its purpose was to explicitly bring out implicit theories based on experience. Human affairs were not detached or impersonal but required interpersonal action based on adaptability. Hunt referred to this as responsiveness or more precisely as "flexing or matching the moment" (p. 116). Reciprocality referred to the transactional nature between of human experience resulting from the responsiveness of two parties.

Schon (1983) identified the importance of intuition, tacit understanding and reflection in the professions. Schon believed that there was a crisis of confidence in professional knowledge due to a dominant epistemology of practice. He identified this as the model of Technical Rationality:

> According to the model of Technical Rationality --- the view of professional knowledge which has most powerfully shaped both our thinking about the professions and the institutional relations of research, education, and practice --- professional activity consists in instrumental problem solving made rigorous by the application of scientific theory and technique. . . . The model of Technical Rationality has exerted as great an influence on scholarly writing about the professions as on critical exposes on the role of the professions in the larger society. (pp. 21-22)

Schon identified four essential properties that formed a systematic base of professional knowledge. It was specialized, firmly bound, scientific and standardized. The following section describes how Schon identified the importance of knowledge, theory and skills:

> From the point of view of the model of Technical Rationality institutionalized in the professional curriculum, real knowledge lies in the theories and techniques of basic and applied science. Hence, these disciplines should come first. "Skills" in the use of theory and technique to solve concrete problems should come later on, when the student has learned the relevant science --- first, because he cannot learn skills of application until he has learned the applicable knowledge; and secondly, skills are an ambiguous, secondary kind of knowledge. There is something disturbing about calling them "knowledge" at all. (pp. 27-28)

Schon believed that the limitations of Technical Rationality was based in its positivist origins which dealt with the process of problem solving. Schon believed that professional practice was more concerned with problem setting. He described the difference between problem solving and problem setting this way:

> From the perspective of Technical Rationality, professional practice is a process of problem solving. Problems of choice or decision are solved through the selection, from available means, of the best one suited to established ends. But with this emphasis on problem solving, we ignore problem setting, the process by which we define the decision to be made, the ends to be achieved, the means which may be chosen. In real-world practice, problems do not present themselves to the practitioner as givens. They must be constructed from the materials of problematic situations which are puzzling, troubling, and uncertain. (pp. 39-40)

Instead of accepting the model of Technical Rationality which Schon found incomplete, he searched for an epistemology of practice "implicit in the artistic, intuitive processes which some

practitioners do bring to situations of uncertainty, instability, uniqueness, and value conflict" (p. 49).

Reflection based on the intuitive spontaneous actions of every day life intuition formed the essential ingredients for Schon's epistemology of professional practice. Schon stated that the work of a professional depends on a tacit knowing-in-action: "Our knowing is ordinarily tacit, implicit in our action and in feel for the stuff with which we are dealing. It seems right to say that our knowing is in our action" (p. 49). Schon identified the following properties for knowing in action which formed the basis for ordinary practical knowledge:

a) There are actions, recognitions, and judgments which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance.

b) We are often unaware of having learned to do these things; we simply find ourselves doing them.

c) In some cases, we were once aware of the understandings which were subsequently internalized in our feeling for the stuff of action. In other cases, we may never have been aware of them. In both cases, however, we are usually unable to describe the knowing which our action describes. (p. 54)

Reflecting-in-action refers to thinking about what you are doing. Schon elaborates: "Phrases like 'thinking on your feet,' 'keeping your wits about you,' and 'learning by doing' suggest not only that we can think about doing but that we can think about doing something while doing it" (p. 54). Describing a group of jazz musicians improvising on music, Schon believed that the musicians were reflecting-in-action as they were collectively making and individually thinking about what they were doing.

Schon believed that a practitioner's reflection could serve as a corrective to over-learning. Through reflection, he could criticize the tacit understandings which may have been repetitive experiences from his specialized practice. Reflecting-in-action, would allow the practitioner to make a sense of new situations of uncertainty and uniqueness and allow him to experience them.

Schon suggested that practitioners reflect on their actions in a number of ways. The following quotation illustrates how a physician would reflect on their practical knowledge:

> Practitioners do reflect on their knowing-in-practice. Sometimes, in the relative tranquility of a postmortem, they think back on a project they have undertaken, a situation they have lived through, and they explore the understandings they have brought to their handling of the case. They may do this in a mood of idle speculation, or in a deliberate effort to prepare themselves for future cases. (p. 61)

Schon believed the limitations in the model of Technical Rationality could best be served by suggesting an alternative epistemology for practical knowledge. The following passage provides his justification of reflection-in-action when conducting research:

> When someone reflects-in-action, he becomes a researcher in the practice context. He is not dependent on the categories of established theory and technique, but constructs a new theory of the unique case. His inquiry is not limited to a deliberation about means which depends on a prior agreement about ends. He does not keep means and ends separate, but defines them interactively as he frames a problematic situation. He does not separate thinking from doing, ratiocinating his way to a decision which he must later convert to action. Because his experimenting is a kind of action, implementation is built into his inquiry. Thus reflection-in-action can proceed, even in situations of uncertainty or uniqueness, because it is not bound by the dichotomies of Technical Rationality. (pp. 68-69)

The Development of Kolb's Model of Experiential Learning

Kolb (1984), based on ideas initiated by Lewin (1951), Dewey (1938) and Piaget (1951), developed a model of experiential learning that provided a framework for understanding the learner's experience.

Kurt Lewin, the founder of American social psychology, had a profound impact on both social psychology and organizational behaviour. Studies from his work on group dynamics emphasizing the laboratory method and training or T-groups and action research methodology provided a useful approach to planned interventions in small groups, large organizations and community systems. Lewin conceptualized learning in four stages using the techniques of action research and the laboratory method. The process began with here-and-now concrete experiences following by the collection of data based on observation and reflection. The data is then fed back to the participants where they form abstract concepts and make generalizations in the form of a theory. This theory is validated in new situations. The implications or hypotheses serve as a guide for creating new experiences.

Dewey's view of the learning process was similar to Lewin's conception of learning with regard to concrete experiences. Dewey, did elaborate, however, on Lewin's conception of feedback integrating concrete experiences with observations to produce a purposeful action:

> The transformation of purposes is, then, a rather complex intellectual operation. It involves; (1) observation of surrounding conditions; (2) knowledge of what has happened in similar situations in the past, a knowledge obtained partly by recollection and partly from the

> information, advice, and warning of those who have had a wider experience; and (3) judgment, which puts together what is observed and what is recalled to see what they signify. A purpose differs from an impulse and desire through its transformation into a plan and method of action based upon foresight of the consequences of action under given observed conditions in a certain way. ...The crucial educational problem is that of procuring the postponement of immediate action upon desire until observation and judgment have intervened...Mere foresight, even if it takes the form of accurate prediction, is not, of course, enough. The intellectual anticipation, the idea of consequences, must blend with desire and impulse to acquire moving force. It then gives direction to what otherwise is blind, while desire gives ideas impetus and momentum. (Dewey, 1938, p. 69)

Dewey's model of experiential learning was similar to Lewin because they both addressed learning as a process integrating experience and concepts, observations and actions. For Dewey, learning was transformed by: "the impulses, feelings, and desires of concrete experience into higher-order purposeful action" (Kolb, 1984, p. 27).

The work of Jean Piaget, a French developmental psychologist, had a profound influence on Kolb. Kolb (1984) believed that Piaget's cognitive development theory shaped the basic learning process of adults. Piaget identified four major phases of cognitive growth. The first stage occurs from birth until about two years old and is called the sensory motor stage. At this stage of development the child is primarily enactive and learns through touching and feeling. Learning occurs primarily through the association between stimulus and response.

The second stage occurs from ages two to six years old and is referred to as the representational stage. Learning is now iconic where the child can manipulate observations and images of the world.

The child's primary stance is divergent where he or she has the ability to collect images and view the world from different perspectives.

The third stage occurs from ages seven to eleven years old and is referred to as the stage of concrete operations. Learning is now described as inductive where the child increases his or her independence from his or her experiential world.

Kolb (1984) believed that it was at Piaget's third stage where the child developed a symbolic process based on concrete operations, the learning style of the child had changed from accommodative to assimilative: "Thus, in contrast to the child in the sensory-motor stage whose learning style was dominated by accommodative processes, the child at the stage of concrete operations is more assimilative in his learning style. He relies on concepts and theories to select and give shape to his experiences" (p. 24).

The final stage of cognitive development referred to as the stage of formal operations occurs in adolescence from the ages of about twelve to fifteen. The adolescent returns to a more active orientation but it has now been modified by the reflective and abstract power which proceeded it. The adolescent engages in hypothetico-deductive reasoning. Kolb (1984) identified this change in learning style from divergent to convergent:

> He develops the possible implications of his theories and proceeds to experimentally test which of these are true. Thus his basic learning style is convergent, in contrast to the divergent orientation of the child in the representational stage. (p. 25)

Kolb (1984) outlined the following propositions on the characteristics of experiential learning developed by Lewin, Dewey

and Piaget. These perspectives included:

1. Learning is best conceived as a process, not in terms of outcomes. (p. 26)

2. Learning is a continuous process grounded in experience. (p. 27)

3. The process of learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. (p. 29)

4. Learning is an holistic process of an adaptation to the world. (p. 31)

5. Learning involves transactions between the person and the environment. (p. 34)

6. Learning is the process of creating knowledge. (p. 36)

Kolb offered the following definition based on the above characteristics of experiential learning:

> Learning is the process whereby knowledge is created through the transformation of experience. This definition emphasizes several critical aspects of the learning process as viewed from the experiential perspective. First is the emphasis on the process of adaptation and learning as opposed to content or outcomes. Second is that knowledge is a transformation process, being continuously created and recreated, not an independent entity to be acquired or transmitted. Third, learning transforms experience in both its objective and subjective nature. Finally, to understand learning, we must understand the nature of knowledge, and vice versa. (p. 38)

Kolb's model of experiential learning employed the theories of Lewin, Dewey and Piaget. Kolb (1984) identified the four learning modes of concrete experience (or feeling), reflective observation (or watching), abstract conceptualization (or thinking), and active experimentation (or doing) as a conceptual framework to understand the centrality of the learner's experience. The Learning Styles Inventory (LSI) was a test to measure a persons relative emphasis on

each of the four learning modes. It also measured the extent to which the person emphasized abstractness over concreteness or whether a person preferred action over reflection. Table 3.2 identifies Kolb's four basic learning modes.

In addition to the four basic learning modes Kolb identified four basic learning styles based on research and observation from the LSI scores:

> The convergent learning style relies primarily on the dominant learning abilities of abstract conceptualization and active experimentation.
>
> The divergent learning style has the opposite learning strengths from convergence, emphasizing concrete experience and reflective observation.
>
> In assimilation, the dominant learning abilities are abstract conceptualization and reflective observation.
>
> The accommodative learning style has the opposite strengths of assimilation emphasizing concrete experience and active experimentation. (Kolb, 1984, pp. 77-78)

Table 3.2: The Four Basic Learning Modes of Kolb Defined

An orientation toward *concrete experience* focuses on being involved in experiences and dealing with immediate human situations in a personal way. It emphasizes feeling as opposed to thinking; a concern with uniqueness and complexity of present reality as opposed to theories and generalizations; an intuitive, "artistic approach as opposed to the systematic, scientific approach to problems. People with concrete-experience orientation enjoy and are good at relating to others. They are often good intuitive decision makers and function well in unstructured situations. The person with this orientation values relating to people and being involved in real situations, and has an open-minded approach to life.

An orientation toward *reflective observation* focuses on understanding the meaning of ideas and situations by carefully observing and impartially describing them. It emphasizes understanding as opposed to practical application; a concern with what is true or how things happen as opposed to what will work; an emphasis on reflection as opposed to action. People with a reflective orientation enjoy intuiting the meaning of situations and ideas and are good at seeing their implications. They are good at looking at things from different perspectives at appreciating different points of view. They like to rely on their own thoughts and feelings to form opinions. People with this orientation value patience, impartiality and considered, thoughtful judgment.

An orientation towards *abstract conceptualization* focuses on using logic, ideas and concepts. It emphasizes thinking as opposed to feeling; a concern with building theories as opposed to intuitively understanding unique, specific areas; a scientific as opposed to an artistic approach to problems. A person with an abstract-conceptual orientation enjoys and is good at systematic planning, manipulation of abstract symbols, and quantitative analysis. People with this orientation value precision, the rigor and discipline of analyzing ideas, and the aesthetic quality of a neat conceptual system.

An orientation toward *active experimentation* focuses on actively influencing people and changing situations. It emphasizes practical applications as opposed to reflective understanding; a pragmatic concern with what works as opposed to what is absolute truth; an emphasis on doing as opposed to observing. People with an active-experimentation orientation enjoy and are good at getting things accomplished. They are willing to take some risk in order to achieve their objectives. They also value having an influence on the environment around them and like seeing results.

Source: Kolb, 1984, pp. 68-69

Problem-solving, Metacognition and Self-Evaluation

Jerome Bruner, an American cognitive psychologist who was influenced by Piaget, developed a theory of instruction based on the scientific foundations of cognitive development. Bruner (1966) believed that curricula could be designed in such a way that the subject matter or structure could be taught to learners at any stage of their cognitive development. Bruner identified the following four main features of his theory of instruction:

> First, a theory of instruction should specify the experiences which most effectively implant in the individual a predisposition toward learning --- learning in general or a particular type of learning.
>
> Second, a theory of instruction must specify the ways in which a body of knowledge should be structured so that it can be most readily grasped by the learner.
>
> Third, a theory of instruction should specify the most effective sequences in which to present the materials to be learned.
>
> Finally, a theory of instruction should specify the nature and pacing of rewards and punishments in the process of learning and teaching. (pp. 40-41)

Bruner believed that problem solving consisted of a cycle which formulated a testing procedure or trial, the operation of the testing procedure, and the comparison of the result with some criterion. It has also been called trial-and-error, means-end testing, trial-and-check, discrepancy reduction, test-operate-test-exit (TOTE) and hypothesis testing. A problem-solving episode occurred when the learner compared the results of his or her attempt with some criterion based on a hierarchy of goal he or she seeks to achieve. A learner usually can tell whether a particular activity worked but may not be able to determine whether the completed cycle

leads to the eventual goal. Instruction provides to the learner information about attaining higher order corrective skills. If learning or problem solving occurs in one mode such as enactive, iconic or symbolic then correct information must be provided in the same mode or one which can translate into that mode. In time the learner develops techniques for obtaining the higher order corrective skills. The following passage summarizes Bruner's belief that the learner or problem solver become self-sufficient and the purpose of instruction is to assist him or her in that ultimate goal:

> Finally, it is necessary to reiterate one general point already made in passing. Instruction is a provisional state that has as its object to make the learner or problem solver self-sufficient. Any regimen of correction carries the danger that the learner may become permanently dependent upon the tutor's correction. The tutor must correct the learner in a fashion that eventually makes this possible for the learner to take over the corrective function himself. (Bruner, 1966, p. 53)

Metcalfe and Shimamura (1995) described how the term, metacognition, has been used to: "describe our knowledge about how we perceive, remember, think, and act --- that is what we know about what we know" (p. xi). According to these authors, the term was originally developed by Brown (1978) and Flavel and Wellman (1977) to characterize changes in self-reflection during early development. Recent psychological studies have examined the role of metacognition in learning, memory, thinking, problem-solving and decision making.

The reporting of perception, memory and thoughts was developed in both philosophy and science. In The Concept of Mind, Gilbert Ryle

(1948) presented a philosophical viewpoint. Ryle took exception to the belief that intelligent performance "involves the observance of rules or the application of criteria" (p. 29). Individuals "do not plan their arguments before constructing them. . . . Efficient practice precedes the theory of it" (p. 30). He described how being intelligent about one's decision was not the same as knowing how and knowing that. Ryle summarized this position in the following paragraph:

> To put it quite generally, the absurd assumption made by the intellectualist legend is this, that a performance of any sort inherits all its title from some anterior internal operation of planning what we do.... What distinguishes sensible from silly operations is not their parentage but their procedure, and this holds no less for intellectual than for practical performances. 'Intelligent' cannot be defined in terms of 'intellectual' or 'knowing *how*' in terms of 'knowing *that*'; 'thinking about what I am doing' does not connote 'both thinking what to do and doing it'. When I do something intelligently, i.e. thinking what I am doing, I am doing one thing and not two. My performance has a special procedure or manner, not special antecedents. (Ryle, 1948 pp. 31-32)

Developmental psychologists such as Howard Gardner have traced both the psychological and physiological foundations on intelligence and problem-solving. Gardner was a member of a research team at the Harvard Graduate School of Education which was researching children and brain damaged adults. In 1979 the research team was asked by the Bernard Van Ler Foundation of the Hague, Netherlands to examine "The Nature and Realization of Human Potential." His role was to write on the current state of human cognition and come up with a more comprehensible explanation which was then accepted in cognitive science. Gardner disagreed with the belief that intelligence could be measured by a general intelligence factor. He believed that the

definition of intelligence required a broader scope and not limited to pencil and paper tests which claimed validity to a general concept of intelligence. Howard Gardner (1983) explained:

> In writing Frames of Mind, I sought to undermine the concept of intelligence as a general capacity or potential which every human being possesses to a greater or lesser extent. At the same time, I also questioned the assumption that intelligence, however defined, can be measured by standardized verbal instruments such as short-answers, paper and pencil tests. . . . I have formulated a definition of what I call "intelligence." An intelligence is the ability to solve problems, or create products, that are valued within one or more cultural settings. (pp. ix-x)

As a result of his research, Gardner developed the theory of multiple intelligences. Rather than accepting a general factor of intelligence, Gardner identified seven intelligences. These intelligences included: (1) linguistic intelligence; (2) musical intelligence; (3) logical-mathematical intelligence; (4) spatial intelligence; (5) bodily-kinesthetic intelligence; (6) interpersonal intelligence; and (7) intrapersonal intelligence. Table 3.3 describes the characteristics and stimulating activities for these seven intelligences.

Table 3.3 A Multiple Intelligence Summary

Intelligences	Characteristics	Stimulating Activities
Linguistic	-Written and spoken language -Meanings of words -Word Relationships	-Read and write -Explain new learning to someone else -Do word games, language puzzles and exercises
Logical-Mathematical	-Deductive thinking and reasoning -Numbers -Abstract thoughts -Precision and logical structures	-Create lists or sequences -Organize, classify information -Do logical math puzzles, games
Musical	-Sensitivity to rhythm, pitch, sounds -Recognition of tonal patterns -Awareness of emotional patterns	-Write a song or jingle -Use appropriate background music during study -Provide a variety of music to create different moods
Spatial	-Keen observation -Sight and images -Visual thinking -Ability to rotate 3-D images in mind	-Create learning map -Make diagram, chart or poster or illustration -Use pictures, symbols -Use guided imagery to introduce subject
Bodily-Kinesthetic	-Physical movement -Body control -Timing	-Act it out -Use active team exercises -Incorporate exercise, stretching or dance
Interpersonal	-Person to person relationships -Person to person communication -Sensitivity to others -Ability to read "intention" of others	-Work, revise, discuss, negotiate with partner -Put learners in pairs or small groups -Practice active listening -Share feelings
Intrapersonal	-Self-knowledge, self-reflection -Awareness of values -Inner states of being -Metacognition	-Keep journal of experiences -Find personal significance to you -Relaxation exercises

Source: Adapted from Synergistic Learning Systems, (1996), p. 8.

Although there has been criticism launched against the idea a theory of multiple intelligences, Gardner and his research team who advocate the multiple intelligence theory defended their position as follows:

> As the name indicates (i.e. theory of multiple intelligences) we believe that human cognitive competence is better described in terms of a set of abilities, talents or mental skills, which we call "intelligences." All normal individuals possess each of these skills to some extent; individuals differ in the degree of skill and in the nature of their combination. We believe this theory of intelligence may be more humane and more veridical than alternative views of intelligence and that it more adequately reflects the data of "intelligent" behavior. Such a theory has important educational implications, including ones for curriculum development. (Gardner, 1993, p. 15)

Much of the criticism with schools, he argued, was that a majority of academic functions emphasized a few intelligences. Tests and examinations, for example, tended to favour the logical and mathematical intelligences. Gardner believed that the purpose for the school was to develop intelligences to help individuals reach their vocational and avocational goals which were appropriate to their unique spectrum of intelligences. Gardner visioned an individual-centered school which contained the following features:

> An individual centered school would be rich in assessment of individual abilities and proclivities. It would seek to match individuals not only to their curricular areas, but also to particular ways of teaching those subjects. (Gardner, 1993, p. 10)

Gardner (1993) also supported the use of portfolio assessment for admissions into colleges. He elaborates:

> Collections of projects, in the guise of portfolios, would constitute a revealing part of every student's dossier. I would wager that records documenting successful (and unsuccessful) projects would have equivalent predictive value about success in college and

> better predictive value for success following college. The time spent by admissions committees in examining portfolios or records of projects would be well spent. (pp. 184-185)

Mann, Krueger and Heerman (1989) described how the portfolio process encouraged critical analysis through self evaluation. They described the preparation of a portfolio as:

> . . . an exercise in self-evaluation, introspection, analysis, and synthesis. It is an educational experience in itself. It requires you to relate your past learning experiences to your own educational goals, to exhibit critical self-analysis, and to demonstrate your ability to organize documentation in a clear, concise manner. (p. 3)

Investigating self-concept research, Byrne (1996) described how the term self-concept has become synonymous with other self-terms. The absence of a universally accepted definition of self-concept has resulted in an ambiguous distinction between the terms self-concept and self-esteem. According to Byrne (1996) self-concept has been referred to as self, self-estimation, self-identity, self-image, self-perception, self-consciousness, self-imagery and self-awareness. Terms used interchangeably with self-esteem included self-regard, self-reverence, self-acceptance, self-respect, self-worth, self-feeling and self-evaluation. Since there has been an increasing amount of studies in the educational psychological literature between efficacy and academic achievement,Byrne distinguished between the terms self-concept and self-efficacy. Self-efficacy refers to "peoples judgements of their capabilities to organize and execute courses of action required to attain designated types of performances" (pp. 3-4). Self-concept incorporates beliefs of self-worth associated with one's perceived performance. Self-concept judgements are, therefore, more global than

those made with self-efficacy which are context-dependent. Although self-concept judgements may be subject specific, they are never task specific. They represent self-evaluations of perceived competence. In the following passage Byrne (1996) illustrates this when she describes the difference a self-concept item and a self-efficacy item on a test:

> Whereas a subject-specific self-concept test item might require the respondent to react to the statement "I am a good student," the self-efficacy item would require a reaction to the statement "I can solve this particular science problem." As such, the two items tap different cognitive and affective processes. (p. 4)

According to Byrne (1996) researchers generally believed that conceptually self-concept and self-esteem represented different aspects of the self-system: "Whereas self-concept connotes a relatively broad definition of the construct that includes cognitive, affective and behavioral aspects, self-esteem is thought to be a more limited evaluative component of the broader self-concept term" (p. 5). Despite this claim, construct validity research has failed to provide empirical evidence has failed to discriminate between the two terms. As a result, self-report scales have been constructed that elicit both descriptive and evaluative aspects of the self. Therefore, it has been common practice for researchers to use the two terms interchangeably (Brinthaupt and Erwin, 1992).

Within higher education, Kolb provided illustrations of how adult learners reacted to their learning style as generated by the Learning Styles Inventory (LSI) test. This exercise was in the form of a learner's profile. Their self-descriptions represented a self-assessment of their perception of learning as a reaction to the LSI test. The first profile was a twenty-year old social worker completing

a graduate degree in social work. She scored high on concrete experience and active experimentation. In her profile she wrote:

> The Learning Style exercise and assignment had a tremendous effect on me, forcing me to take stock of my standard learning and problem solving pattern.
>
> I'm writing this paper right now, twenty minutes after class, as a direct result of my poor score on the paper just returned to me. If I sat and analyzed what it meant to receive a poor mark, I would become too upset. I had to do something about it, to fix it, so I immediately went home and sat down to write a good paper to prove I could do better. . . .
>
> I realize that my problem solving process is not 100% destructive. My instincts are very good, and I'm just as likely to make the right decisions as not, based on my experience.
>
> My accommodator style most concerns me in the context of professional situations. When working with a client, I tend to promote and encourage action choices or solutions before we have fully analyzed the problem at hand; it breaks my heart to see a client suffer, so I want to relieve his or her pain with the same medicine I use on myself.
>
> The process of sorting my thoughts for this paper has meant a great deal to me. It took me an hour to sort it out. That may not be much for most people, but a concentrated hour of attempting to calmly and reflectively sort my thoughts represents a miracle for me! And I must admit that it feels good. (Kolb, 1984, pp. 69-71)

The second illustration represents a self-description from a thirty-two year old M.B.A. student. He scored high on abstract conceptualization and reflective observation. His report was formal and academic in tone. Experiential learning was not his preferred technique. He completed the LSI including his profile when he had taken an organizational development approach. He writes:

> Falling onto the extreme edge of the assimilator category, I, too, have experienced frustration with the experiential learning approach and much of the content of the course to date.
>
> I propose to generalize from the physical definitions to include those activities of the mind which are active and concrete, rather than passive and imprecise. For example, much of the active part of

> active listening is a mental, rather than a physical activity. Similarly, for me, active participation in a novel, textbook, or journal article is more "active" than engaging in typical sporting activities. To view my learning as balanced, rather than ivory-towerish, one must surmount what economists term the "fallacy of misplaced concreteness." Cerebral as well as sensual participation in life can be concrete and active.
>
> During the second group session, a number of our group members discussed the Learning Styles Inventory. I presented my views on inductive versus deductive reasoning and the difficulty of constructing an index which is unidimensional. One group member remarked, "I never know what he is talking about," leading to snickers from the group.
>
> The four group members of our group discussed the advantages and disadvantages of assimilation as a learning style . . . . I felt a sense of community and cohesion forming in the group. In particular, a lawyer and I confirmed our commonality of vision.
>
> This activity (i.e. reacting to the LSI) did result in constructive reflection on my part. It appears to me that people under stress or feeling isolated seek others with similar feelings for security. (Kolb, 1984, pp.71-73)

Although self-evaluation has been widely researched since the last half of this century, the motivation for introducing self assessment into higher education courses have varied from a basic curiosity as to whether students should carry out the task to relating self-evaluation with educational aims and objectives. In recent years, students have been encouraged to take more responsibility of their own learning. Since the purpose of life-long learning requires that students work independently, they must also assess their own performance and progress. It is not surprising that outcomes of self-assessment have been varied (Falchikov and Boud, 1989).

Boud and Falchikov's (1989) analysis of quantitative studies on student self-assessment was the first major study which critically reviewed the self-assessment literature. This critical review analyzed forty-eight quantitative studies which examined the differences between

student and teacher grades when assessing the same student performance. Some of the findings indicated that:

- common sense predictions favoured more experienced students (i.e. undergraduates with a long duration of 3 or more years and graduates than undergraduates of less than three years)
- more experienced students tended to underestimate their performance
- more able students made more accurate self assessments than their less able peers (p. 543)

Predictions from the critical review of the literature were subjected to a meta-analysis (Falchikov and Boud, 1989b). When students and professors agree on the assessment criteria, there is a close correspondence between teacher and student self-evaluation marks. Other factors which contributed to the closeness of correspondence between self- and teacher marks included the following:

- better designed studies had a closer correspondence between teacher and student scores than poorly designed ones
- students in advanced courses appeared to be more accurate assessors than those in introductory courses
- studies in the area of science appeared to produce more accurate self-assessments than did those from other areas of study (p. 395)

Falchikov and Boud (1989) regard self-assessment as a skill which needs to be practiced by teachers and assessors. Although this study concentrated on student-teacher agreement over rating, Falchikov and Boud (1989) consider self-assessment as a valuable learning activity which can provide important feedback for to the student about learning and educational and professional standards. Ross, Rolheiser and Hogaboam-Gray (1998) studied the effects of self-evaluation

training on narrative writing on 148 students in 15 grade 4-6 classrooms, who were taught to evaluate their work over an eight week period. Although this study was directed at elementary school students, Ross, Rolheiser and Hogaboam-Gray agree with Falchikov and Boud (1989) and describe self-assessment as a valuable learning activity:

> This study produced knowledge of two types. For researchers the study contributed evidence to the consequential validity of authentic assessment . . . . For teachers the study suggests that self-evaluation might be a useful mechanism for increasing student achievement and the accuracy of self-appraisal. Thoughtfully designed self-evaluation procedures that provide students with explicit criteria at an appropriate level of generality, that provide for student involvement in assessment decision making, that elicit student cognitions about their performance which ground student goal setting in accurate data, and that are integrated with sensitive instruction may provide teachers with a powerful lever for enhancing student learning. (p. 12)

Summary of the Literature Review

This literature review served two purposes: (1) to describe what has been written about the utilization of prior learning assessment and the portfolio process; and (2) to identify some of the psychological literature which dealt with how individuals perceive their learning.

The surveys of PLA (Baker, 1984; Thomas, 1989; Isabelle and Associates, 1994) showed its utilization. The writings from the Council for Adult and Experiential Learning emphasized the steps for portfolio development and principles of good practice in PLA. There also have been a number of prior learning assessment initiatives at Ontario community colleges. Prior learning assessment has a conceptual foundation in experience. Finally the use of portfolios has been used

for both instruction and assessment.

While engaged in the portfolio process students make decisions not only about what to include in their portfolio, but about the meaning of their prior learning as well. Since there was no study from prior learning assessment which examined how students perceived their experiential learning, contributions primarily from cognitive psychologists were examined. These areas consisted of tacit knowledge, implicit theories, problem-solving, metacognition and self-evaluation.

The contributions from cognitive science indicated that there could be a possible conceptual structure to investigate a learner's perspective on his or her prior learning. This study attempts to examine that perspective and make a contribution to the research on prior learning.

CHAPTER 4. METHODOLOGY

This chapter begins with an explanation of the study design followed by a description of the setting and the participants. The procedures used to address the research question are explained. The underlying assumptions, methods of data collection and analysis are outlined. Finally, the features of case study research are considered.

Design of the Study

This study used a case study research strategy which allowed the opportunity to penetrate how learners understood and created meaning from their prior learning. Stake (1995) identified a case as a "specific complex functioning thing" (p. 2). In education a case may consist of a student or a class, a school or many schools. But a case would not be the relationship among schools for innovative teaching or policy reforms. A case is concerned more with specifics and emphasizes interpretation. According to Stake (1995), case study designs "emphasize placing an interpreter in the field to observe the workings of the case, one who records objectively what is happening but simultaneously examines its meaning and directs observation to refine or substantiate those meanings" (pp. 8-9). The reason for choosing a case study research strategy was to explore how learners made meaning from their prior learning by listening to their stories as they recounted significant aspects of their prior learning. This case study was descriptive in nature and exploratory in purpose as it described the "lived"

experiences of the participants.

This exploratory case study had the following characteristics: (1) an emergent design allowed for a contextual analysis; (2) the use of the emic voice; (3) the qualitative tools of participant observation, documentary analysis and interviews were used to collect and report data; and (4) established an audit trail through the verification of data through triangulation and memberchecking.

Lincoln and Guba (1985) stated that designs must be emergent rather than preordinate because:

> (1) meaning is determined by context
> (2) the existence of multiple realities constrains the development of a design based on only one construction
> (3) what will be learned at site will always be dependent on the interaction between investigator and context
> (4) the nature of mutual shapings cannot be known until they are witnessed (p. 208)

The responses from the participants (students) formed comparative data to answer the research question. Since the research question was concerned with how students understood and made meaning of their prior learning their statements and actions represented findings from the research. There were three types of groups in this study. The first group included learners currently taking the portfolio development course. The second group consisted of the students who took the portfolio development course and have used their portfolio to challenge other college credit courses. To establish a pattern, the study included a group of mature students who had not taken the portfolio development course as part of their college program.

I observed and conducted the interviews of the portfolio development class at an eastern Ontario community college. The students who completed the portfolio development course were interviewed at a mutually agreed upon location.

I had two objectives for choosing the setting: (1) a college that actively supported the portfolio development course; and (2) a college other than the one at which I currently teach so that my interpretation would be based on the lived experience of the participants rather than my personal involvement at a particular institution.

Through my associations and contacts I found an individual who was teaching the portfolio development class at an Ontario community college. He actively supported PLA. He was willing to have me observe the class and interview the students.

The five conceptual interpretations of perception of learning, learning style, metacognitve abilities, evidence of learning and student needs were identified so that some patterns could be established for comparability. These conceptual interpretations were consistent with the focus of research question.

To gain an understanding that best reflected a student's perspective on their prior learning this case study made use of the emic voice by allowing for other issues to emerge through the learners' interpretations. Stake (1995) identified these as emic issues. He explained:

> Issues evolve and emic issues emerge. These are the issues of the actors, the people who belong to the case. These are issues from the inside. (Stake, 1995, p. 20)

Data were analyzed from the sources of data collection: (a) participant observation; (b) interviews; and (c) documentary analysis. Although I volunteered to assist the teacher in the classroom, I mainly observed the class proceedings as the learners were working independently on their portfolios. Glesne and Peshkin (1992) described this as an "observer as participant" role.

> The researcher remains primarily an observer but has some interaction with study participants. When we studied the fundamentalist Christian school (Peshkin, 1986), we interacted with students and teachers, but for a semester we were primarily observers, taking notes from the back of a classroom. We did not teach; give advice; or assist teachers, students, or administrators. (p. 40)

For the interviews I used the "interview guide" technique which consisted of a series of open-ended questions. Patton (1980) explained:

> An interview guide is a list of questions or issues that are to be explored in the course of an interview. An interview guide is prepared in order to make sure that basically the same information is obtained from a number of people covering the same material. The interview guide provides topics or subject areas within which the interviewer is free to explore, probe, and ask questions that will elucidate and illuminate that particular subject. Thus, the interviewer remains free to build a conversation within a particular subject area, to word questions spontaneously, and to establish a conversational style -- but within the focus on a particular subject that has been predetermined. . . . A guide keeps the interaction focussed, but allows individual perspectives and experiences to emerge. (pp. 280-281)

Lincoln and Guba (1985) believed that an audit trail was necessary to ensure that qualitative data reflected an accurate interpretation of a study. The purpose of the audit trail was to establish credibility of the findings. The techniques used to establish credibility included: (a) prolonged engagement; (b)

persistent observation: (c) triangulation; and (d) member-checking. Triangulation referred to verification of data from a variety of sources. It involved both method and data collection. This study which used a methodology consisting of observations, interviews, and documentary analysis analyzed data from three sources: (a) field notes from observations; (b) interview transcripts and (c) portfolios. Member-checking was another way to verify data. It was a process whereby participants verified field notes.

The use of an emergent design, the emic voice and the qualitative research tools of observations, documentary analysis, and interview, and establishing an audit trail through verification of data through triangulation provided a basis for presenting a learners' perspective on his or her prior learning.

Procedures

After obtaining permission from the classroom teacher of the portfolio development class, I began with weekly classroom observations and asked for a selection of students to volunteer for an interview. I observed the portfolio development class at a community college during the fall 1996 semester. This class met once a week for three hours for fifteen weeks. I began interviewing students each week after the third session.

Some of the classroom observations included a determination of the classroom atmosphere. What was the mood of the class as the learners are engaged in preparing their portfolios? Was there evidence of learning such as organizational skills or other cognitive processes evident from learners who were constructing

their portfolios? These were the initial focus points of my classroom observations. Since I attended the class, I became aware of the same directions given to students from the instructor about portfolio development. Therefore I was better able to identify the experiences of the students taking the portfolio development class. Since the students were working on their portfolios independently, for the most part, I could see how self-directed they were. I also became more familiar with the students so that when I interviewed them I knew what went on in class and I was able to relate any observations or comments from the classroom session. This familiarity allowed for probing issues relating to what they did in the classroom or comments which they may have made to the instructor. The composition of the class with regard for age and sex was also observed. As part of the observation procedure, I examined the portfolios to see the continuity between the chronological record, autobiography, documentation and the matching process. I also referred to these documents during the interviews.

The interviews of the portfolio development class asked questions concerning the observations. Certainly comfort level questions were asked. As students prepared their portfolios, an understanding of the significance of their prior learning was explored. Since the purpose of the portfolio development course was to gain an academic credit, not all prior learning experiences were included in a portfolio. I used the interviews to ask questions about why they made certain choices about what to include in a portfolio. I also asked the students to reflect on how they made meaning of their nonsponsored learning.

I interviewed four students from the classroom sessions. An interview guide using the following conceptual interpretations as a way to organize the questions was used: (1) Perception of learning; (2) Learning style; (3) Metacognitive abilities; (4) Evidence of learning and (5) Needs of students. These initial interpretations were consistent with the ones established by the research question. I used a semi-structured format so that if students wished to elaborate about certain issues other interpretations could emerge.

The snowballing technique required that participants were selected from the study as it progressed. I selected for interviews two students who had completed the portfolio development course and were in the process of challenging courses using this technique. I chose these participants because they took the portfolio development course and had successfully challenged many college courses for credits toward their diplomas. I explored reflective questions with the intention of gaining a longitudinal view of their nonsponsored learning. I was particularly interested in their interpretation of their prior learning after they had been engaged in the challenge process. With this group of students I examined their portfolios and framed the questions within the conceptual interpretations from the interview guide. The reflection process either reaffirmed the interpretations developed when I interviewed the students in the portfolio development course, or added further interpretations which could be explored.

A third group was selected to see if there were established patterns between the groups who took the portfolio development course and students who did not. This group consisted of three

mature students who did not take the portfolio development course as part of their college program. Since these learners did not prepare portfolios the focus of the questions was concerned with the significance of their nonsponsored learning within their college program. The five conceptual interpretations of perception of learning, learning style, metacognitive abilities, evidence of learning and learners' needs framed the interview questions.

All of the participants who were interviewed were provided with a copy of the transcript and given the opportunity to reply offering any comments or clarification of the matters discussed. The appendix contains permission letters for both the classroom observations and the interviews.

Underlying Assumptions

Several assumptions were made in the design of this study:

1. The case study approach and qualitative research methods selected were suitable for obtaining data particularly when it involved giving a learner's perspective by recounting their actual experiences.

2. The researcher had the necessary skills to use the research methods appropriately.

3. Attempts such as bracketing and member checking were made so that the researcher's pre-existing beliefs did not interfere with the recording and interpreting of data.

4. The participants were in the best position to express their feelings and opinions about their prior learning.

Data Analysis

Examples from the autobiographies of the portfolios described each learner's profile descriptions. A comparative analysis based on the five conceptual interpretations was used to reflect the comments from the students who were working on the portfolio development course and the students who completed the course and had challenged courses for college credits. The same conceptual interpretations were used for the mature students who have not taken the portfolio development course, however their view of nonsponsored learning became the focus rather than what was presented in the portfolio. The responses from the interviews were corroborated with the classroom observations and samples from the portfolios. The results were then compared with the literature.

Features of the Case Study

The purpose of this section is to show how this case study embraced the principles of qualitative research. The first part described how the sample size and procedures used in this study attempted to present the participants' "lived" experience. This section concluded by addressing the issues of subjectivity, validity and reliability and how the qualitative researcher used other tools to enhance a thick description which were essential for interpreting case study research.

Sample Size and Procedures

The participants selected for this study were composed of: (a) four mature students, two male and two female, who were taking the portfolio development course; (b) two mature students, one male and one female, who had taken the portfolio development course and had challenged other college courses for credit; and (c) three mature students (two male and one female) who had not taken the portfolio development course as part of their programs. All of the participants were selected from the same community college.

Classroom observations were carried out in an evening class which consisted of fifteen sessions each having a duration of three hours. I attended twelve of the fifteen sessions and consistently made field notes. I was there for the entire time except when I interviewed the students from this class.

For the four students taking the portfolio development course I conducted the interview during their classroom hours. I interviewed the three students who did not take the portfolio development course at the same office and arranged the time and place for the interviews with their academic advisor. I interviewed the students who had taken the portfolio development course and were challenging other college courses for credit at their respective places of employment. Each interview was completed within an hour in accordance with individual comfort levels. Sufficient time was required to discuss the issues adequately. All of the interviews were taped and transcribed after the interview. There was no equipment failure when I transcribed the interviews.

Although the presence of an observer can alter that which is observed, I believe that my presence and familiarity with the class led to an understanding of the learners' experiences. Because of this I was fairly comfortable with the participants both in the classroom observations and at the interviews. The participants also appeared comfortable as I was always treated warmly and with respect during each class session. After the interviews each participant expressed appreciation and seemed interested that they contributed to research on prior learning.

Subjectivity, Validity and Reliability

Subjectivity, reliability and validity have been concerns about qualitative research. Qualitative researchers use parameters such as transferability, credibility, and verification. This next section will deal with these parameters which are unique to qualitative research using the case study method.

The purpose of this section is to show how I compensated for my own subjectivity which may have influenced my interpretation of what the participants said. I arrived at the study with my own preconceptions which have been outlined in the prologue. Although subjectivity is an essential element of understanding a particular case, a problem arises when subjectivity influences the interpretation of events. I read my field notes with this possibility in mind. I have kept a thesis journal to record events and reflections since I became interested in the study. A method of compensating research subjectivity is through bracketing which can be accomplished by keeping a journal where personal reflections are

recorded. These reflections help the researcher become aware of and bracket his or her own values as separate from data collection. Berger and Kellner (1981) explain:

> If such bracketing is not done, the scientific enterprise collapses, and what the sociologist then believes to perceive is nothing but a mirror image of his own hopes and fears, wishes, resentments or other psychic needs; what he will then not perceive is anything that can be called social reality. (p. 52)

I also tried to reduce subjectivity by choosing a setting in which I was familiar but I didn't have any influence on the participants' academic progress. During the interviews I tried to remain neutral, trying not to impose my views on the issues. When I was asked about my position about a certain matter, I told the participants that my purpose was to present their views on prior learning and I would present them a copy of the findings from the research once the study was completed.

In qualitative research, interpretation serves a unique purpose. Stake (1995) describes:

> We try hard to understand how the actors, the people being studied, see things. Ultimately, the interpretations of the researcher are likely to be emphasized more than the interpretations of those people studied, but the qualitative case researcher tries to preserve the multiple realities, the different and even contradictory views of what is happening. (p. 12)

By providing a copy of the interview transcripts to the participants and giving them an opportunity to reply, I attempted to preserve their interpretations of the issues. The interview transcripts were compared with the field notes from the classroom observations and the portfolios. Triangulation served as a way to preserve the interpretations of the participants.

Traditional empirical research stresses the importance of reliability, validity and generalizability. Qualitative researchers have different conceptions of these terms. Lincoln and Guba (1985) use the terms "comparability" for reliability, "credibility" for internal validity.

In conventional studies, reliability refers to consistency of results. Lincoln and Guba believe that conventional studies are based on a fixed framework which does not allow for changing realities in the research design. Lincoln and Guba believe that triangulation and keeping a reflexive journal are two techniques that preserves the multiple realities of a naturalistic research design.

Validity refers to how the study reflects reality. Internal validity is established through the credibility of the findings. Lincoln and Guba believe that credible findings will be produced through prolonged engagement, persistent observation and triangulation. The researcher must show "that he or she has represented those multiple constructions adequately, that is the reconstructions,.. are credible to the constructors of the original multiple realities" (Lincoln and Guba, 1985, p. 296).

Eisner (1991) believed in the art of criticism as a way of describing, interpreting and evaluating educational research. According to Eisner (1991), validity in educational criticism consisted of: (1) structural corroboration where "multiple types of data are related to support or contradict the interpretation and evaluation of a state of affairs (p. 110)"; and (2) referential adequacy as "the extent to which a reader is able to locate in its

subject matter the qualities the critic addresses and the meanings he or she ascribes to them. (p. 114)"

Generalizability of findings is concerned with the degree to which findings derived from one context, or under one set of conditions may be applied to other contexts or other conditions. Stake (1995) believed that case studies employed naturalistic generalizations. The purpose of case studies are to make the case understandable, not to generalize to larger populations. He elaborates: "Naturalistic generalizations are conclusions arrived at through personal engagement in life's affairs or by vicarious experience so well constructed that the person feels that it happened to themselves" (p. 85). Since the participants are discussing their perception of learning, it is through their words that their stories are reconstructed. Geertz (1973) called this a "thick description". Stake (1995) elaborates: "Thick description is not complexities objectively described; it is the particular perceptions of the actors" (p. 42).

Lincoln and Guba (1985) use the term "transferability" instead of external validity or generalizability. They believe that the purpose of naturalistic inquiry is to provide a thick description which will enable others to make transferability judgments:

> The naturalist cannot specify the external validity of an inquiry; he or she can only provide a thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether transfer can be contemplated as a possibility.
> It is, in summary, not the naturalist's task to provide an index of transferability; it is his or her responsibility to provide the data base that makes transferability judgements possible on the part of potential appliers. (Lincoln and Guba, 1985, p. 316).

Glesne and Peshkin (1992) believe that the issue of generalizability is but one feature for those conducting qualitative research:

> The particular case, you study in qualitative research, however, is likely to contribute to an understanding of similar cases, such that going beyond the case in your ruminations will not be farfetched. In short, researchers conduct qualitative studies not merely for their own sake, but rather in the reasonable hope of bringing something grander than the case to the attention of others. Researchers hope for a description and analysis of its complexity that identify concepts not previously seen or fully appreciated. (p. 148)

An assumption underlying this study was that the participants reported their true feelings. In the interviews, it appeared as if the participants spoke quite candidly and were uninhibited as they expressed their opinions.

This study pursued an emergent design which allowed for a learner's perception of prior learning. The findings from the research are based on the learner's life experiences and their interpretation of events.

CHAPTER 5 PROFILE OF SIX LEARNERS

This chapter consists of the biographies of six learners who used the portfolio process for course equivalents in their respective college programs. The following biographies are mainly summarized from the learners' life history papers, although some background information was provided in their chronological records and during the interviews. Samples of the learners' life history papers can be found in the appendix. In the description of the learners that follows and in the examples of life history papers located in the appendix, the names of people and places have been changed to maintain anonymity. Like the documents, the following profiles include both professional and personal information.

Biographies from Adult Learners Currently Enrolled in the Portfolio Development Course

Teresa

Teresa, who is in her late twenties, graduated from high school in 1987. Teresa worked as a waitress and cashier at the family restaurant. In the fall of the same year she enrolled in the Early Childhood Education program at the local community college. During the first year Teresa met another student and they set up a rural day care program. Teresa graduated from the two-year Early Childhood Education program with honours and relocated to Oshawa where she worked at a day care centre.

In 1990 Teresa moved to Toronto and lived with friends. She started a new job at another day care centre and volunteered in the emergency department at a hospital.

Teresa went to the Bahamas for a vacation and relocated back home. She found employment as supply teacher at a local day care centre. Teresa received a full time position at a local day care centre, relocated there and moved into her own apartment.

Teresa worked at the local day care centre for three years. In May of 1992 she moved to a town within twenty kilometres of her home. She also commenced Spanish lessons, travelled to Mexico to visit a friend, enrolled in a stained glass course at the local community college and completed first aide courses at work.

Teresa has a love for writing. She enrolled in a creative writing course at the local community college and learned how to express herself more effectively.

In 1994, Teresa and her partner bought their first home. Later in July she was laid off at the day care centre but secured a temporary position at the county social services as a case aide worker. Teresa had many temporary assignments as a case aide worker at the local office. Teresa found this new position very demanding. She also completed a course through work called "Time and Stress Management and Psychological Disorders."

In 1995 Teresa completed two courses at the community college which dealt with human relations and social services legislation. In that year she married her partner and they went to Maine for a honeymoon.

In January 1996 Teresa made the transition from a case aide worker to a case worker when she transferred to another county social services office. She received intensive training on a new

computer system when she acquired this job. According to Teresa, this position is more demanding than the case aid position. She claims she understands the responsibilities of a case aid worker better now since becoming a case worker. Since March Teresa has served as the treasurer of the local union.

Since Teresa has worked as a temporary case worker, she would like to be employed full time in this capacity. Teresa intends to use her portfolio for two credits towards the social worker's service program at the local community college. She anticipates that she will have the requirements for her diploma within two years by completing the remainder of the program through continuing education.

Diane

Diane is in her late thirties. In 1979 she graduated from high school, married her childhood sweetheart and worked full time in retail sales at a local sports and hobby store. At the retail store Diane was responsible for window, aisle and floor displays. Each month she completed the physical inventory.

Two years later she left the retail store to work at a large manufacturing plant where she spent the first three months in training. She was part of a team which had to learn the operation of the lines and keep the product within its proper specification. The company required each team member be part of an annual certification process to ensure that their skills could be maintained.

Diane worked for the manufacturing company until 1990. She

moved within the company with increased areas of responsibility. Within the various teams she travelled to the United States and received training at the head office. From there she came back to the local plant and trained fellow employees.

For the most part Diane performed shift work. Her past five years were spent in the material requirements planning department. She was responsible for scheduling deliveries of raw materials so that they could meet the production needs. She worked closely with other production planners performing weekly stock counts which kept inventories to a minimum by adjusting shipments.

One of the most exciting assignments for Diane occurred in 1987 when she was asked by the department manager to join a team which had the responsibility to assess how the department operated. With the assistance of a consultant, the team learned how to develop questionnaires, summarize and interpret data. Diane enjoyed communicating the findings to other employees. Once this assignment had been completed, Diane returned to her previous position of material requirements planner.

In addition to her working responsibilities, Diane had personal experiences which had a profound impact on her outlook on life. She separated from her husband after two years of marriage and became close with her brother and his new family. She witnessed the birth of her first niece and described that as a marvellous learning experience. In the final year at the manufacturing plant Diane remarried and they purchased a new home.

During this time, Diane completed four courses at the local community college and two university courses.

A new manufacturing company was building a state of the art facility locally so Diane decided to apply as a receiving manager. After a successful interview, Diane was offered the job of receiving manager in December 1989. She accepted this new position because she did not desire shift work and she envisioned that working for her previous employer would eventually lead to that.

The receiving manager's function was to control and monitor raw materials shipped from locations in the United States. She was responsible for supervising eight receiving truckers who delivered raw materials and two material control technicians. This was a managerial position and Diane realized that she preferred working to managing because she could work through the details and follow projects to its completion.

After receiving manager, Diane took a short-term assignment as a Communication Specialist. One was the liaison between the media and the plant manager. She also organized two plant wide celebrations.

Before securing her present position, Diane worked as warehouse coordinator where she integrated the daily warehouse routines with a new computer system to track products. In this capacity she posted notices at work stations, wrote memos for team meetings and developed training packages for three levels of operations. As a warehouse coordinator Diane participated in the audit process by developing reports. After completing this assignment Diane worked on the accounts payable desk for two months. She then moved to a position of junior buyer where she designed reports for checking and verifying quantities, part numbers and physical locations. All of

these data were successfully verified by the computer system.

At the end of 1994 Diane obtained the permanent position as a buyer. The job involved sourcing, ordering, typing, placing follow up calls, filing, quoting, negotiating and reading new literature and sharing this information. She also holds a position as an International Standards Organization auditor. She participates in six audits a year with the company.

Diane now has two children and enjoys being a parent. One of her interests is self-empowerment and she began reading books on the subject. She has also taken accounting, computer and management courses at the community college.

Diane has worked as a buyer for the past three years and intends to successfully complete the two year business diploma at the community college within one a half years through continuing education. She hopes to achieve up to five credits through exemptions and course matches. Diane intends to use her current portfolio on business mathematics which is a mandatory requirement for the two-year business diploma at the college. Once completed the two year diploma Diane will either work on a three year business diploma at the college or study humanities at a university.

Brad

Brad is thirty two years old and possesses a strong entrepreneurial spirit. Brad's parents both passed away within a year of each other when he was seventeen years old. He has received support from family and friends. Paula, his wife, has encouraged Brad's vocational and avocational interests since high school.

Brad completed high school in 1984. He had a strong interest in radio. As part of his cooperative placement in grade twelve, Brad went to the local radio station and assisted with the production of commercials and programs. He was also a guest disc jockey on a Toronto radio station for one hour. That experience initiated Brad to enrol in a local college radio broadcasting program in the fall. He didn't enjoy country music which aired on the local radio station. He was also concerned about the increasing costs of tuition.

Brad quit college and headed west with a friend. They made it to Vancouver Island but had no luck finding employment. Brad returned home and started to look for full time employment.

In 1986 he participated in a hunters safety course and received his license. Brad's parents' estate was settled later that year. Brad and Paula bought a mobile home. Brad eventually found employment with a crane manufacturer nearby initially as a Labourer and later as a Hand Sprayer both of which were physically demanding.

In 1987 Brad was hired by another local manufacturing company as a production operator and was released two and one half months for an error that his boss made on a production issue. Later that

year Brad was hired by a local cable manufacturing company as an Extruder Operator. This job entailed operating a machine that applies the insulation to various types of electrical and communications cable.

At the local cable manufacturing company Brad served as the Education Officer representing the Canadian Auto Workers (CAW) Union while at the cable company. He organized union meetings and attended union sponsored conferences.

In 1989, Brad had an operation on his knee which meant that he would be off work for six months. About a month after the surgery, the manager of the cable company phoned and offered Brad the opportunity to assist in sales during his recovery. Brad started to acquire skills in office administration and the fundamentals of business.

Paula and Brad travelled to the Dominican Republic on a holiday during the last stages of his recovery. Brad experienced first hand the poverty and slow pace of economic development of third world countries.

In 1990 the cable company offered Brad a full-time job as a Customer Service and Sales Representative. That job involved corresponding with customers, monitoring orders through the production process, costing, preparing shipping documents and coordinating orders with the production department. Brad enjoyed and excelled at this new job. Brad completed three college courses which would assist him at this position. They were marketing, introduction to lotus, and effective communications. In 1991 an American firm acquired the cable company and Brad was one of 8

people laid off in the management area.

In 1992 Brad was hired by a tire manufacturer. He felt fortunate because he had a new job that paid well with an established company. He realized that working for such a large company he would probably need more formal education if he wanted to advance. All the things he learned from his parents began to take on a new perspective.

In 1993 Brad married Paula and they went to Jamaica for their honeymoon.

Brad actively participated in some of the volunteer committees at the tire manufacturer to gain more knowledge about the range of products. The Committees included the Green Tire Review Committee, the Cured Tire Review Committee (monitored and repaired scrap green and cured tires, trained fellow workers) and the Component Review Committee (reviewed scrapped stock, disposed of stock, provided feedback to appropriate managers and liaised between departments). Brad believed that volunteering for these committees should assist him in preparing for an office position. Whenever an internal job bid was posted Brad usually applied.

In 1994 Brad and Paula purchased their first home. They rented the mobile home and soon became acquainted with the responsibilities of being a landlord. Although a lot of work is required in being a landlord, they have recognized some financial gain.

At the tire manufacturer Brad was asked to fill in for the G Systems Specialist/Waste Manager while she was away. His duties included monitoring the Green Tire Review, tracking and recording scrap and friction waste data, communicating data to fellow workers

and other managers, and acting as liaison between departments. As a result of the knowledge gained on the job, Brad and a co-worker have invented an apparatus named the "Air Raider" for repairing tires. This tool reduced the number of scrap tires with a defect called "liner paella" (the air permeable lining of the tire separates from the other components) by 50% and decreased repair time by approximately 30%.

In 1995 the same problem occurred in the Quebec plant. Brad and the co-worker were asked to explain the "Air Raider" to the employees at the Quebec plant. They trained the Quebec employees and supplied them with some "Air Raiders".

Brad has always possessed an entrepreneurial spirit. His friend Greg has accompanied Brad on many business ventures. The first business venture involved investigating the use of teflon. After a thorough research, Greg and Brad found that the expense would exceed their financial resources.

Their next venture was a shoe circulation system that pumped fresh air into a shoe with every step. After searching a patent office they found a match that had been granted three months earlier.

The current business venture has been the development and distribution of a black jack strategy wheel. With the popularity of casinos in Ontario Brad feels that this current venture may become moderately successful. They have started to create business cards, letter heads and files for the new business.

Last year Brad witnessed the birth of his son. He described it as a miraculous experience.

Brad has tried to improve his position at the tire manufacturer by applying for new jobs. Brad has been unsuccessful at attaining a new job and feels that a lack of formal education has impeded his progress. Brad is using the portfolio development course as a way of formalizing his education. He intends to achieve up to five credits towards a business diploma at the community college. Eventually Brad wants to be self-employed in a successful business.

Norman

Norman who is fifty was born and completed the equivalent of a high school education in St. Lucia. In St. Lucia he worked as a damaged crop assessor, received a certificate for religious training at a Roman Catholic parish, and worked as a stock clerk at a local college. He frequently travelled around the islands funding himself through various jobs.

In 1970 Norman obtained his permanent Visa to travel to Canada. He worked as a dishwasher at a university, an assistant wine steward at a hotel and started high school at night school. Within two years, Norman obtained a high school diploma from night school. He also got married and their first son was born.

In 1974 Norman enrolled in a two year electronic technician program at a local college. After the first year of college he bought a home located within a small town in Quebec at the provincial border.

After graduating from college in 1977, Norman secured a position with a company as a Navigational Equipment Technician. His first assignment involved travelling to the Arctic to install and

maintain navigational aid equipment for a survey crew. That year also witnessed the birth of his daughter.

On assignment with this company, Norman made two more trips to the Arctic. He also installed and maintained Tide Gauges on the Great Lakes and St. Lawrence and operated navigational instruments to perform tests on new oil tankers that were being tested in the Bay of Fundy.

In 1979 Norman found employment with a new company as a product tester. Within a year he was promoted to Customer Representative and Data Communications Consultant. In this position he fulfilled two contract assignments with a federal government department.

Norman has worked for the same federal department since 1983. They also purchased their present home that year. It is located in Eastern Ontario. In his first position as Supervisor of Network Technology and System Change Control, Norman coordinated the implementation of on-line facilities throughout Ontario and provided training to employees. A year later he received a merit award for his contribution.

Norman currently holds the title of Chief of Systems Planning and Change Management. He has had increasing areas of responsibility involving coordinating network systems, planning and controlling projects on new equipment, and participating in workshops dealing with time management, leadership skills, team building and effective communication skills.

In addition to his proven work record, Norman has been an active member of the community. He is presently involved in various community organizations. Norman became vice-president of a

local ethnic council for which he visited London and Paris. He was also a founding member of the local chapter at the United Nations. Norman also helped his brother to obtain a permanent Canadian Visa. As a result of this effort, Norman's brother and his family are now residing in Canada.

Norman has read extensively in philosophy and physics. He is particularly interested in optics. Norman wishes to locate a university which will recognize his learning in these areas. Consequently, he is preparing a portfolio for a university which will recognize his learning in philosophy and physics. With the assistance of the portfolio development teacher, an Ontario university, which has a prior learning assessment component to an undergraduate degree, has been identified. As a result Norman has applied to that particular university. He believes that he can achieve a degree in philosophy and physics through a combination of distance education courses and prior learning assessment.

Biographies From Two Adult Learners Who Have Used Their Portfolios to Challenge Other Courses

The adult learners who have used their portfolios to challenge college courses for credit were Leanne and Tony. Their biographies are now presented.

Leanne

Leanne who is in her mid-forties is of first nations ancestry. Her father is a Class A Mechanic and her mother started out in factory work and worked her way up to Supervisor of customer account collections at a major department store and a bank. They both continued their education through night school to help them attain these goals. While attending high school, Leanne worked every summer in a variety of jobs such as taking surveys (going door-to-door asking questions), working at a canning factory, and picking cherries. She also helped a ladies guild at various functions.

Leanne had an on-going relationship with the same person since she was fourteen. The relationship was going down hill and she was about to end it when she became pregnant at the age of 17. She left home, left school and moved to Toronto with her boyfriend.

In the spring of 1974, Leanne was married. Her son was born. They decided to move back home to be closer to their families. Apart from a one year stay in Toronto, Leanne and her family lived in her home area.

In 1978, their second child, a girl was born. Two years later, they built a new home. They hired a contractor to do the shell and they finished the rest of the house themselves. Leanne looked after the budget, hammered a few nails, painted and did the trim. Since

her son was in school and she had the opportunity to put her daughter in daycare Leanne took a correspondence course from the Ministry of Education in English. The course involved a lot of essay writing and analyzing speeches performed by well known figures in Canadian politics. Because of stresses from her marriage and her concern with day care, Leanne did not complete the English course. She had completed fourteen out of the twenty assignments with a grade from seventy-five to eighty-five percent.

In 1980, Leanne learned about the Ontario Career Action Program through a local college. Through this program, she had the opportunity to receive twelve weeks of practical training as a Secretary/Receptionist at a local wood craft business. More importantly, she rediscovered her work and social skills while at the same time acquired many new skills and knowledge pertaining to small business such as bookkeeping, filing, organizational skills, human relations and customer service. Leanne gained self-confidence.

It was at this time that Leanne realized her marriage was not going to sustain itself indefinitely. She decided to look for a decent job and begin to build a future for herself and her children.

Leanne went to the local manpower office and received funding for a twelve week course in data processing at the local community college. In November of 1981 Leanne completed the data processing course with new found confidence and began looking for full-time employment. A secretarial position came up at the local elementary school. She got the job and started in January of 1982. As a school secretary Leanne was responsible for looking after student

records, transfer and admission records, class lists, personnel files and special education files. She also typed all school correspondence, monthly reports and processed the school accounts. As part of this job, Leanne had to learn the word processing programs on a Radio Shack Tandy 1000 computer. Leanne performed well in this position and her efforts were appreciated by her fellow workers.

In 1984 the Ministry of Citizenship and Culture sponsored a two year project. Its purpose was to provide all children of the Province of Ontario with access to microcomputer technology. Leanne was recommended as the coordinator of this position by her principal. The principal recommended Leanne on the basis of her daily work habits, positive attitude and the ability to perform a variety of tasks effectively. Leanne continued her regular duties as school secretary and accepted the new coordinator's position.

While at the school, Leanne performed secretarial duties for a steering committee that started a new training institute for First Nations people. Its primary mission was to enhance the opportunities for First Nations people by allowing them greater control over their future in social, political, cultural and economic areas through high quality learning activities.

The school principal became the president of the institute. In June 1985, Leanne accepted the position as Service and Community Program Coordinator. In that capacity, Leanne assisted in staffing and training three data entry clerks. She also took minutes of the Board of Directors meetings.

In 1986 Leanne divorced her husband. She assisted in the design of a science curriculum from Kindergarten to Grade 8 for Indian and Northern Affairs Canada for First Nation schools across Ontario. She also learned Ventura, a desktop publishing software package, and used it for preparing classroom curriculum materials. Leanne also taught three day Ventura courses at the institute. Leanne is currently with the institute and has taught a number of courses on its behalf.

In 1989 Leanne remarried, moved to the city nearby the reserve, and leased her home on the reserve for the Child and Family Service Office. During that year Leanne transferred to the printing department at the institute where she worked as a graphic designer. She learned about various types of paper, colour separations and the dockets, purchasing, filing, bindery and serving walk-in customers. Leanne acted in a liaison capacity between printing and head-office and learned the importance of paying attention to detail and meeting deadlines.

Leanne was transferred to head office as the Community Program Co-ordinator when the company restructured in 1991. She became a staff representative on the Human Resources Committee at the institute. Its mandate is to increase the overall effectiveness of the institute and the individual competence of employees with respect to professional and career development. Leanne is also a member of their Educational Council Services Committee which aims to encourage research and development for the present and future educational programs of the institute.

Leanne is near completion of a two year office administration diploma at the community college. She has taken a number of courses through continuing education and has had the support of her present employer. Leanne has used the portfolio process to receive the maximum number of credits rewarded through prior learning assessment. Her ultimate aim is to pursue a career as an office manager or administrative assistant where she can make use of her formal education. She hopes to advance in the company where she is presently employed but is willing to relocate in order to achieve her goal.

Tony

Tony, who is in his late forties, has worked with computer operating systems for the same government department since 1971. Tony grew up on a farm with his mother, father, four brothers and a sister. They were a hard working family.

Tony was an honour student until the middle of grade ten when his values clashed with his principal and teachers. In 1967 Tony's cousin, who lived in Detroit was drafted and spent eighteen months in Viet Nam. He referred to it as an unjust war. That incident affected Tony deeply. When he saw his cousin after he returned from Viet Nam, Tony could not recognize him. The war in Viet Nam had left his cousin a broken man at the age of nineteen. Tony saw all wars as unjust and fought against the establishment. He managed to barely pass high school and completed one year of teachers college.

After completing school, Tony worked in a restaurant. He started washing dishes and after a month became a cook. Since there

was more money in construction Tony took a job as a general labourer. He soon advanced to carpentry work because they received more money. When winter came, Tony was laid off. He returned to the farm.

Tony did not like being unemployed. He went to the Manpower office to see what jobs were available. On one occasion he asked for an interview. The counsellor said that since his last work involved carpentry there was no job available for him. Tony suggested that perhaps he should talk to the manager. Tony was given an interview and a job that would last seven weeks. That was over twenty-five years ago. He has the same employer.

The first government position involved manually sorting Records of Employment. The next job involved document control. In 1972, Tony secured his first computer operating position. The department ran a batch system with approximately 80,000 cards each day. The master files were on tape. The cards were read to tape and sorted in the same order as the master records. The records were updated and punched cards were mailed to claimants within two weeks.

In Toronto there was a back up site where the computer operators spent a lot of time. There were up to twelve operators for the early machines. Most of the operators worked 16 hours a day. Often they would go to Toronto to do a batch run after the regular shift. They rarely had a weekend off of work. The record for one continuous shift without sleep was 36 hours.

Tony was successful in a competition for senior operator. With this job it was necessary to take a systematic approach to managing computer operations. The operators identified the training required

to be successful at their jobs. They read books and manuals on computers. There were discussions with programmers on how to improve operations.

In 1973 Tony developed a training course for junior operators. The course had modules on binary arithmetic, hardware components and disk maintenance.

In 1974 the system was upgraded to accept 600 different programs which meant that multi-tasking was a possibility. The result was that operations were now within a normal working week. Previously Tony had averaged twenty hours of overtime each week.

In 1975 Tony married the girl who lived next door. She was very artistic. They bought their first house about 25 miles from where Tony worked. Tony set up a workshop with woodworking and welding equipment. He took welding and woodworking courses at the community college and cut and delivered firewood to make some extra income.

In 1976 Tony became the computer room supervisor. They were now running dual mainframes with 10 tape drives, 60 Megabytes of disk, high speed printers, reliable card punches and crossover channels. Over 100,000 warrants a night were often processed. The shift supervisor was the management representative from 5 p.m. to 8:30 a.m. Tony developed contingency procedures for a backup site in the event of a disaster. Appropriation updates were made.

In 1977 Tony's daughter was born. Since he was still commuting to work, Tony helped a friend build a house to make some extra money. In 1978 Tony's first son was born. They had to remodel the house as it only had two bedrooms.

Shift work was very hard on the whole family. Supervisors and operators were given very technical training for computer operations. They also discussed storage of information in random and sequential files on disk and sequential tape files which was useful for multitasking.

In 1979 Tony's second son was born. His mother-in-law died two months earlier. They sold their house and moved in with his father-in-law while building a new house which was a stressful period for the whole family. The house was really too small for two families. They built a room in the basement of the new house and lived there. The house was completed by the end of the year.

In 1980 Tony became Chief of EDP Security. Since the department was moving from batch processing to on-line real time data basis, Tony was seconded to supervise two sectors of the government which had merged.

In the following year, Tony was chosen to supervise manual pay to computer pay. Tony developed a project for the implementation of real-time systems from head office to the local branch. Tony had to prepare timelines, operator training plans, software training plans, computer room layout requirements and other details to switch sites. The switch had to be done in a weekend.

The on-line system was completed by 1984. Tony's third son had been born two years prior to the completion of the project.

In 1984 Tony was seconded to the Operational Software Support section to work with system software. He designed and implemented communication circuits, installed and maintained data bases, and operating network software. He compiled programs in ALGOL, COBOL,

RPG and BASIC. Tony also prepared the annual budget and developed some database modules to keep track of mainframe access requests, security violations and overdue acknowledgments from the field.

In 1986 Tony spent a lot of his time working with software. He was responsible for a database that kept track of who entered and left the computer site.

In 1987 Tony obtained an IBM microcomputer at home and at the office. He had formal courses in Advanced COBOL, LINC 13 (a fourth generation language) and EDP Security. In 1988 Tony's family took a trip to the west coast. Tony's position was upgraded to the Computer System group. He implemented an operating system that enhanced the security of the large scale computers.

Tony was seconded to evaluate and select the best security options for the department's major LAN production system in 1989. The system was an upgrade of the original On-line System.

Tony and his wife took a trip to Quebec and the east coast in 1990. Tony found that the story of the battle of Quebec was different when it was read from the Plains of Abraham. He was impressed with the cliffs in Quebec and fathomed how the troops scaled them at the battle.

Tony's father-in-law died in 1992. That was a tough time for the family. To complicate matters, Tony's father had a major operation the following year.

Tony is currently the Manager of EDP Security. He began this position in 1993. He is most active with C++ and LAN network programming. Software license control and data privacy on all systems are his primary responsibilities. Tony is often asked to

write a program or find specific information for a policy inquiry or an internal investigation. His experience has been oriented to understanding how the system works not just how to do something with the system. This has led to knowledge and abilities that can be used on any system.

Tony believes that his working experience has allowed him to stay at the forefront of new developments. He has made a good living and now wants to consolidate his learning in information systems. Tony has successfully received the maximum number of credits in the two year Information Systems program at the local community college.

Summary

These autobiographies illustrated that all of these learners had acquired nonsponsored learning in both their personal and professional experiences. Since these learners work full-time, they intend to use the portfolio process to earn academic credits towards their college programs. Therefore, these learners will not need to complete all of the courses for their particular diplomas.

All of the learners except Norman are pursuing diplomas related to a field where they are currently working. Their nonsponsored learning has a direct relationship to the college courses that they intend to pursue. Teresa intends to use her work experiences in family services to the social welfare program. Diane and Brad have had various business experiences and both wish to pursue a business college diploma. Leanne intends to complete the office administration program which relates to her working experience. Tony has had a lot of experience with computers and intends to pursue a computer technology diploma at college. All of these learners have had increasing responsibility in their work experiences. The nonsponsored learning acquired from personal experiences has a profound impact on the way these learners approach learning both on the job and at school.

Norman, on the other hand, is pursuing university studies. He intends to equate the nonsponsored learning from a general interest in philosophy and physics. The transfer of his nonsponsored learning to university is related to learning which he acquired from his personal experiences rather than specific learning he acquired in his work. The nonsponsored learning Norman acquired in his work

environment, such as his business trips to the Higher Arctic has allowed him to experience other cultures. Like the learners who prepared portfolios, Norman's progressive responsibilities at work has also had an impact on the way in which he approaches learning in various contexts.

CHAPTER 6. RESULTS AND INTERPRETATION

The purpose of this chapter will be to analyze data regarding how learners understand and create meaning from their prior learning. The findings reported in this chapter are based upon data obtained from nine learners who agreed to take part in the study.

The results are organized in three sections. The first section investigates the portfolios of six learners. The primary focus is the learners' autobiographies. The next section deals with my reaction to the classroom observations. These are limited to four learners who were part of the portfolio development class.

In addition to the six previous learners who prepared portfolios, three students who were qualified to take the portfolio development course but elected to take a full program were also interviewed. The findings from the interviews of all nine learners are presented in the final section.

This section concludes with a summary of prior learning for each of the nine learners.

Analysis of Portfolios

The learners who prepared portfolios related their skills and knowledge acquired from their jobs and in other non-school settings to learning experiences. It was not just a matter of stating the skills acquired on the job but what they learned from their prior experiences. Part of the reason for explaining this is in the structure of the portfolio development course. The portfolio

development course is structured in such a way that the learners are forced to follow a specific framework. One of the requirements of the course is to prepare a portfolio that demonstrates that a student's prior learning is equivalent to college-level learning. Portfolios are organized so that events from the chronological record relate to the life history paper. The competency-statements are then identified with the learning outcomes of a specific course. Finally, documentation provides the evidence for college-level learning. In order to understand the complete portfolio process, I have included in Appendix D a selection from Leanne's portfolio. It deals with one learning outcome and traces it through the portfolio process.

It is the autobiography section of the portfolio which best illustrates a learner's perception of their prior learning. The next section will describe how the learners came to understand and create meaning from their prior learning by examining their autobiographies.

Selections from the Learners' Autobiographies

Teresa did not embrace an overall philosophy of her prior learning. Instead she related what she had learned in specific jobs in her autobiography. For example she related how understanding a new computer system has changed the routine of a Case Worker. Teresa writes:

> . . . from January to April (1996) we had training on our new computer system called Case Worker Technology (CWT). We took a course on managing change, "Introduction to Case Worker Technology" and actually had hands on training. I enjoyed the transition to CWT. The computer

> has definitely changed the way we do our job. A lot less paper and a lot more contact with the computer. We are one of the first municipalities to be introduced to CWT.

Diane also described what she had learned at various jobs but she did offer a philosophical view of her prior learning. Diane made meaning from her prior learning by recognizing the importance of a well defined career path:

> The past seventeen years have taken me through many interesting and challenging opportunities with three companies. I am very proud of my learning and achievements. I've learned that setting goals and working towards them takes effort and planning. Sometimes progress is in small steps and sometimes it happens in leaps and bounds. For every hurdle you jump, there is always another fork in the road.

Brad described the importance of identifying a career path based on realistic goals. At the conclusion of his autobiography, Brad writes: "I learned about Prior Learning Assessment and decided to enroll in the Portfolio Development course with hope that it will help me identify a clearer career path, get some post-secondary credits and set some realistic goals."

Norman realized that his prior learning was in areas not particularly identifiable with a community college. He was not interested in matching his prior experiences with particular college courses and is more concerned about receiving recognition from an institution for his areas of interest rather than the skills acquired through his career experiences. As a result, Norman's autobiography is self-reflective. He pays little attention to the skills which he acquired at specific jobs:

> . . . I do a fair amount of knowledge update in the areas of philosophical concepts and physics, but I am once again at a crossroads, and the question at this time seems to be, "when am I going to do something more

> concrete about those things which I am interested in". I want to enhance/formalize my knowledge and experience in those areas of interest, and I feel that affiliation with a post secondary institution will assist in achieving this goal.

Leanne described her various learning experiences from positions that she held in the work force. She identified that employers found her well-organized and extremely competent at various tasks. For Leanne, identifying her prior learning has given her self-confidence which has led to an increase in personal and professional growth:

> I have been fortunate to be able to take advantage of the many opportunities that have existed for me to learn and grow. I believe everyone would have a similar chance. Therefore in my work and personal experiences I try to bestow self-confidence in other people and in the process I believe I have become a better communicator, facilitator and more competent and confident personally and professionally.
>
> There was a time when I would say I "can't" do that or I'd say I am "just a mother" or "just a secretary." Now I don't believe we are "just" anything. With the support of my friends and colleagues, I find I say "can't" less often. Instead I will try almost anything new and am not embarrassed to ask for assistance. I used to think that by asking people for help people would think that I was stupid. But I know now that by asking for assistance I am really asking for someone else's expertise so that I can learn, which in turn allows me to grow even more and be more effective in my personal and work life.

Tony's autobiography revealed that he has successfully competed for internal positions which had increased areas of responsibility. It was Tony's inquisitiveness and problem solving abilities which allowed him to pursue a career with computers. He has remained current in a field which is always changing. Tony's career choice was not planned. He described the relationship between his prior learning and prior learning assessment as follows:

> My experience has allowed me to stay at the forefront of new developments. This computer system I became interested in years ago continues to challenge me with ever changing intricacy. It has given me a good living; now I want to consolidate my learning in Information Technology.

Classroom Observations of the Portfolio Development Course

The portfolio development course is a 45 hour elective credit course. It is not mandatory for any program at the college. To achieve a credit for the portfolio development course the portfolio must be successful at challenging another course. This provides a focus for the organization of portfolios. Once students complete this course they are encouraged to challenge other courses for credit through the portfolio process.

The course was offered one night per week. Each class was three hours in length. I observed all fifteen classes. The purpose of the class was to assist each individual with their portfolio. Usually there are at least twelve students in the course. Because of such a limited enrolment of four students each student was given a great deal of assistance from the instructor.

The classes were structured so that the learners could follow the focus of the lesson. The goal of the course was to prepare a portfolio which would be acceptable for challenging another course. With this objective in mind the learners focused their portfolio for a specific course. The first class dealt with the chronological record and the life history. The chronological record outlines professional and work experiences throughout a lifetime. Its purpose is to allow for reflection on learning that has occurred over the past two to three decades. The life history paper is a

narrative essay based on the chronological record. Although the ultimate aim of the portfolio development course is to match individual experiences with specific course outcomes, the chronological record and life history paper has a broader perspective. Peter, the instructor, informed the class that the chronological record was in some instances, more helpful than the life history because it represented the focus of learning.

Seventeen tables with about two chairs accompanying each one were arranged in an open ended square that faced the blackboard. Peter used the blackboard each session to outline the procedures of each class. The overhead projector was used occasionally. During the first session Peter talked about Douglas Robertson's (1988) developmental phases. According to Robertson, developmental phases occur through a transformative process. Learning is seen as growth. Growth occurs within two patterns: (1) between transformations; and (2) within transformations. Growth involves some kind of transition and periods of transition appear to alternate with periods of stability. Between transformations, growth does not follow a strict linear pattern but seems to upsurge between plateaus of stability. Within transformations, growth involves three phases: endings, the neutral zone, and new beginnings. Growth involves a transformation which results from adding and integrating new things within ourselves. These ideas were integrated with recognizing the needs of the adult learner and how the portfolio process encapsulates a model for helping people. By identifying learning through life experiences, the portfolio assists individuals to come to understanding of themselves.

The first few sessions showed that the instructor was there to assist the learners with preparing their portfolios. In the interviews that followed this attitude was brought out.

Although some group instruction was provided most of the assistance occurred individually. During one of the later sessions, Brad commented about the setting of the course. He replied: "This course is great -- the structure is different." Diane agreed. The individual assistance from the instructor certainly helped her organize her portfolio. At first she felt "a little nervous going through PLA." This was particularly evident when she described the portfolio as "not easy and vague." In one case she had difficulty demonstrating that she had a knowledge of ratios. In her previous jobs she had used percentages and ratios to calculate simple interest, mark-ups and mark-downs. Peter explained how she could show to an assessor that the learning which she acquired on her job could demonstrate this. If further proof was needed Peter suggested that she include in her portfolio an example of a question with a solution. That may serve to be a verification of learning.

In a student/teacher conference, Peter assisted Diane with this in her portfolio. Diane drafted an example which showed that she had an understanding of mark-up and mark-downs. In her the rough draft of her competency-statement, Diane described the experience and learning from experience as follows:

> Description of Experience
>
> My duties included taking inventory of all craft and hobby products, sales of products, handling cash which involved calculating discounts and sales tax, customer

relations, educating customers about products and demonstrating their uses.

Learning from Experience

I can identify and describe the steps involved in calculating discounts and accurately apply the discount price to sale items. In the retail business product sales occur frequently. I can demonstrate how to calculate the revised price of an item at $59.95 on sale for 10% off.
59.95 x 10/100 = 5.995. Subtract the discount amount from the original price to determine the sale price of $53.95. In this example 10% is the rate 59.95 is the base. The net price result remains the same if you were to calculate the sale based on 90% of the list price (59.95 x .90)
Slow moving articles may have seen a series of discounts. List price reduced by 10%, then a week later, a further 10% reduction, and even a third reduction by 15%. Here the net example would be $41.28.

The experience described above was when Diane worked in full-time sales at a local sports and hobby store. From this example, Peter suggested that Diane include the years she performed this job function. He also suggested other examples for her understanding of ratios that could be included in her portfolio. In her portfolio, Diane gave further evidence of her understanding of ratios when she worked in a large manufacturing plant as a junior buyer.

Most of the teacher/student conferences in the portfolio development class dealt with the instructor providing assistance to the learners. Brad, for instance, was given Peter's assistance in locating documentation letters. A documentation letter, also known as a verification letter, describes the skills and knowledge acquired on the job. It is the verification of learning that occurred during your employment. This is different than a letter of reference where somebody is recommending you for a position or a task. It does not describe the learning which was acquired with a

specific employer.

The learners respected that Peter has been active in promoting PLA. In fact, during the interviews many commented on the support he gave. The learners were encouraged to send copies of their chronological record and life history or matching competencies by fax so that Peter would have time to read and possibly edit them before the next class. This availability and trust relationship developed and flourished throughout the course. The learners were also encouraged to call Peter during business hours or reach him through electronic mail.

One of the most difficult tasks in constructing a portfolio is to find a course outline which has clearly specified learning outcomes. Some of the course outlines that were examined by the learners in the class lacked specific outcomes. Once students could select a course with clearly specified learning outcomes, the construction of the portfolio appeared easier because they could now focus their learning. This became a particular problem for Norman who realized that there were no courses at the college for which he wanted to construct a portfolio. As with the other learners, Peter assisted Norman by locating a university which had a PLA component. Norman wrote to the university inquiring about portfolio assessment. He could now focus his learning on the requirements of the university.

Two significant developments came out of the classroom observations: (a) I realized how important it was for the learners to have input from the instructor and how helpful he was in providing assistance; and (b) I came to understand these learners

and felt comfortable observing their class.

The classroom observations, therefore, gave me the opportunity to explore another interpretation, instructor's guidance during the interviews. Also, I felt quite comfortable when I interviewed learners from the portfolio development class because I had a presence in their class from the observations.

Interview Analysis

This section will provide data from the interviews. The first part will consist of the six learners who engaged in the portfolio process. The interpretations of perception of learning, learning style, metacognitive abilities, evidence of learning, and learner needs which formed the focus for relating how learners came to understand and create meaning from their prior learning are presented according to the initial questions. During the interviews other interpretations emerged. The findings from these interpretations are also presented.

This section concludes with the responses from the three learners who did not pursue the portfolio process. The findings from this group will be also be presented.

Learners Engaged in the Portfolio Process

Perception of Learning

1. What is the learner's perception of knowledge and learning?

All of the learners in this study held a definite perception of learning. In addition to their prior learning, some of the learners elaborated on learning that occurs in a classroom.

When learners write their portfolios, they identify learning that takes place in non-institutional contexts, such as work. Teresa felt that learning on the job is often taken for granted. The portfolio development course has helped her understand her prior learning:

> You do the job everyday and it (preparing a portfolio) also brings out what you do on the job, what you take for granted sometimes. You just do it and write it down on paper without realizing that what you do is really important and that you are learning from it. For me this is more valuable than taking night courses. I still have lots to learn so I plan on taking what I feel that I need but I feel that the portfolio development course has been a great help.

Diane also made the connection between learning on the job as opposed to doing a job. Diane attached a lot of importance satisfying her employer. Her real interest is in the humanities and religion. She is willing to complete her college diploma and then move on to her interests. This, she believes, will give her more freedom to learn what interests her.

> What I have learned in the portfolio development course just supports that learning in the workplace is learning as opposed to a job. It is important for me to get a diploma as soon as I can. Ultimately my goal would be for a university degree but it just doesn't fit right now. The workload, the financial part of it is just not an easy fit right now. So rather than go without, I want my college diploma and then really learn something about the humanities and religion at university. It is very

> important for my employer that I complete my business diploma. I'm going towards my diploma because it is an easy fit right now.

Brad never considered learning at the workplace in a formal sense. His perception of learning has changed from doing the portfolio as he now sees knowledge that he accomplished in the workplace as meaningful. Brad sees learning on the job more of an education than at school. He attributes this to a variety of skills that he has acquired while working. Brad attaches continuous improvement for himself and looks forward to learning as a way of accomplishing that goal.

> I think that the portfolio development course is well worthwhile. It has opened my eyes with what I know, what I don't know, which way I want to go and what I want to do ten years from now. I've learned not necessarily just through this course but from my prior learning in general that continuous improvement for oneself is most important thing.

Norman made the connection between the portfolio and the learning that occurs in both the workplace and everyday life. He feels that academic institutions promote one type of learning, usually through a test, while the workplace and other experiences have different indicators. In a job, it is how well you perform. He described himself as a survivor and talked about experiencing life from different vantage points. In the following passage, Norman describes the importance that the trips to the higher Arctic had on his prior learning:

> I've had three trips to the higher Arctic and I have done a lot of things. These are all things that bring you knowledge, bring you experience, makes you look at life from different vantage points, have a totally different approach to life in many respects. Teaches you how to survive in communion with other people not just isolation and no course in psychology or sociology will teach you

> that. Yet still it doesn't have the same type of importance as someone just twenty-one years old graduating from sociology. That person doesn't have half the know-how that you have in terms of social behaviour.

Leanne realized the importance of learning in her everyday life from preparing the portfolio. She attached learning significance to her life experiences:

> You are always trying to sort out what you learned while doing a portfolio. What did I learn by being a mother? I learned to be a communicator. I learned to be a good listener. When I think about it, preparing the portfolio has been a good learning experience in my everyday life.

Since Tony is in the computer technology field which is always in a state of change his perception of learning is concerned with updating skills. Tony described how you learned programs such as COBOL in the past and how the technology has made that knowledge obsolete. He continually sees the need to upgrade. He sees the need for educational institutions to change. In the following passage Tony describes how a cooperative effort could be arranged between businesses and educational institutions:

> It is going to have to be a complete exchange back and forth. I don't think that there is going to be anyway that the educational institutions will be able to afford to keep up to the hardware and the only place where that can be done is probably in industry. So that the classroom will expand. Maybe there would be a room in somebody's factory and the educator would go around to different rooms in all of the different businesses. The college would tend to be viewed as a community asset as opposed to a distinct place they go and spend three years.

Tony recounted how some companies are willing to spend $500 a day on courses. When an individual comes back from a course, he or she immediately applies that learning. Tony feels that this type of outlook would be good for Canadian companies.

Since the portfolio process encourages reflection, these learners believed that the learning often taken for granted in a job situation is just as important or encourages learning in an academic setting.

Learning Style

2. Are the learners who engage in the portfolio process aware of their particular learning style?

The learners differentiated the learning style with terms like abstract, concrete, practical and problem-solver. Teresa described herself as a "hands-on" person. She sees herself as action oriented. She would prefer doing rather than reading about it. Diane felt her learning style could be adapted to the situation. For business she would describe herself as a concrete learner. She also has the ability to deal with abstractions. It depends on the topic or subject. Diane exemplified these thoughts in the following passage:

> I guess I'd have to say that my learning style would differ depending on what I was learning. For business a lot of it I find very concrete. I recognize that there are theories but I recognize that theories are only theories. It's like a rule, like a guideline and there are a hundred examples of when you can deviate from it. If I were having a conversation about personalities or children I could think outside the nine dots, no problem. I guess it depends on the topic or the subject.

Brad views himself as a problem solver. He enjoys organizing a charity golf tournament every year, meeting people, setting up his business and travelling. He has strong inter-personal skills.

Norman viewed himself more as a practical learner but likes to see the balance between theory and practice. He will learn the

theory if he can apply it to practical situations. Norman finds it difficult to retain theoretical knowledge if it has no practical application.

Leanne prefers practical work to theory. She also prefers to work independently. One thing that she liked about the portfolio development course was that she worked on her own.

Tony believes he has the ability of putting the abstract into a concrete setting. He feels he can extract abstract concepts and apply those concepts quickly. Tony prefers short courses where he can acquire a lot of information quickly. He does not like to be led through a course.

Metacognitive Abilities

3. Do metacognitive abilities become evident during the construction of a portfolio?

Metacognitive abilities refers to two things: (1) "how we perceive, remember, think, and act" (Metcalfe and Shimamura, 1995, p. xi); and (2) positive feelings such as self-worth and personal growth. Teresa described herself as a "hands on" learner. She prefers practical applications to theoretical concepts. Teresa describes this in the following passage:

> I learn from hands on myself, actually by talking to people. I feel I have learned a lot on the job but it's a different type of learning. It's hands on. Unless you do a placement in college it is book knowledge.

She has also learned a lot from other workers by listening to the advice she has been given by them.

Diane believed that she learned a lot about herself by doing the portfolio. She described that the portfolio method brought

about personal growth because it gave her a chance to reflect to see how much she had learned. When preparing the portfolio, Diane was amazed at her accomplishments and appreciated that the PLA program showed that her prior learning "really did count for something in college." Diane felt that the portfolio was a reflective process that cleansed the soul. She elaborates:

> I think the portfolio development course brings about personal growth. It gives you a chance to look back. For some things you write maybe the not so pleasantries down on paper and go through the emotional upheaval and decide its not appropriate but just to get rid of some of that old baggage if you will. That was nice. Even if it was something that I didn't use. I got it down and was forced to look at it and think about it again. It was almost like a cleansing of the soul.

Brad felt proud of himself for taking the time and continually improving himself. He believes that he is maximizing his time now. Brad realized that he knew a lot about business and understands concepts such as supply and demand. He realized that there were many examples in everyday life but it wasn't put in formal terms. Now he is making the connection.

Norman felt that academic institutions use of the test method was not an appropriate method for determining if somebody understands something. To Norman testing did not represent a way of knowing. Norman believed that a test should be used as a diagnostic tool which would enable students to understand concepts rather than its present purpose:

> Wouldn't it be better if you used the test as a measure of allowing a student to find out how much did I retain, how much or where am I or what do I have to focus rather than looking it as a way of passing or failing? Because to me passing or failing is not a positive reinforcement. A failure is not a positive reinforcement. True you have to repeat the course, but it certainly doesn't tell you

> how much you know. . . . A better method would be to use it as a means of determining those areas that were you did not understand and next time focus on these.

Leanne believed that the portfolio process increased her self-confidence. Tony believed that the portfolio gave him a feeling of strength. He also felt that he takes longer to learn a concept now than he did when he was younger. Tony described this as follows:

> When I was younger I used to be able to read over something and I had it right the first time. It seems now that I can read something over and over again before I fully understand it. I find that if I read some new concept I may understand it while I'm reading it but a day or two later it's gone again. It makes it pretty difficult. Because some of the reading is not too light. I have to go through it two or three times.

Evidence of Learning

4. Is there evidence of cognitive development while preparing a portfolio?

By cognitive development, I am referring to the academic skills exemplified in writing a portfolio. I assume that cognitive development is taking place when writing skills and organizational skills improve. Learning also takes place when there is a realization that learning occurs in both institutional and non-institutional settings. When the participants specify and organize their non-sponsored learning there is cognitive development about their life history.

The six learners who had written portfolios felt that their writing skills and organizational skills improved as they were engaged in the portfolio development process. Teresa felt that her organizational skills were brought out when she had to locate and compile all of her documentation. She also realized how much she

had learned when she started writing about her prior learning.

Diane claimed that she enjoyed writing the portfolio because she didn't have much opportunity to do a lot of report writing on the job. She described that as revisiting her learning. Diane also pointed out that she didn't realize how much she had learned because her prior learning was often taken for granted.

Brad stated that his organizational and writing skills were definitely enhanced when he was writing the portfolio. He also felt that writing the portfolio assisted him in planning, communicating and a better understanding of what it takes to put a course outline together.

Norman preferred to prepare the portfolio in a more directed way as opposed to just getting it done. Since Norman has changed his initial direction he will be examining university course outlines to determine how his prior learning equates to university-level learning. In spite of the personal limitation, Norman felt that the portfolio can improve organizational and communication skills.

Leanne believed that the portfolio improved communication skills. She stated that she had to write clearly informing the assessors what she had learned. After Leanne prepared the first portfolio she found it easier because she had a better idea of what was required by the assessors.

The portfolio forced Tony to organize his learning into a formal presentation. The following description illustrates how Tony perceived a personal benefit from preparing a portfolio:

One real benefit for me is that I am not a very organized

> person. In fact, I'm very disorganized. Ask anybody. What the portfolio forced me to do was to organize my learning into a formal presentation. I was able to use that presentation as a resume for when applying for different jobs. The portfolio was invaluable for that type of thing. It was the first time that I took the time to sit and think about all the things over twenty-five years that I accomplished and had been involved in. I put them in some formal format that I could present to a person. That was a major benefit for me.

Learners' Needs

5. What needs of the learners have or have not been met through the portfolio process?

Needs Met

The primary objective of all the learners except Norman was to complete their college program and receive a credential. The four learners enrolled in the portfolio development class identified a variety of needs met through the portfolio development process.

Teresa believed that the portfolio process allowed her to receive credit for her work experience and will accelerate her progress in the social services workers program. Teresa elaborates: "Because I have been in the field, I am taking advantage of what I have learned." Teresa intends to challenge courses with a placement application. She feels that she can receive exemptions from placements because of her experiences in day care and social services.

Diane found the matching process of the portfolio the easiest task because she was able to focus her learning. She knew exactly what she had to prove. The portfolio development course provided the necessary framework to relate her work experience to college level learning. She also believes that the portfolio process will

accelerate her learning and she can receive her business diploma in a shorter period of time than taking a regular course load.

Brad believed that the portfolio process allowed him to identify his priorities and goals by focussing his learning, identify which courses he could challenge by examining the course outlines and accelerate his program without needlessly taking courses for the knowledge he already had acquired. Brad's basic purpose for going to college is to receive a credential. He believes that the portfolio process will assist in formalizing his non-school learning.

Although Norman did not use his portfolio towards a college credential, he realized that his interests in philosophy and optics were courses more suitable to a university. With the assistance of the instructor a university with a prior learning assessment component has been located. Norman intends to formalize his learning by constructing his portfolio according to courses offered at the university. The portfolio development course has allowed Norman the opportunity to gain admission at the university and possibly receive some exemptions from his prior learning.

Leanne has used her portfolio to challenge a variety of courses in the office administration area. She has successfully challenged courses at the introductory and advanced levels. Since a lot of courses are repetitive, Leanne feels that the portfolio process has reduced the length of time required to complete the office administration program.

The portfolio process provided Tony the opportunity to utilize his nonsponsored learning in both academic and employment settings.

His portfolio process has accounted for twenty-five years experience in the computer technology field related and he was relating that experience to specific college courses. He described the portfolio as a portable instrument that could be used if he needed to seek other employment due to cutbacks and downsizing. Although confident about his abilities, Tony realized that he needed something more than twenty-five years experience working in a government office should he seek employment elsewhere. His portfolio, could therefore, be used in future employment possibilities.

Needs Not Met

The portfolio development process did not fulfil all the needs of the learners. Teresa felt that she still needed to take some courses which would assist her as a case worker. Although she has a great deal of experience with interviewing and counselling, Teresa feels that she needs to take these college courses as part of her program. She feels that these courses will provide a foundation for becoming a better interviewer and counsellor.

Diane felt that she should have pursued university or college after high school rather than entering the work force. Although the portfolio satisfied the need of recognizing her prior learning, Diane felt that the portfolio does not take the place of years spent in an academic environment. Diane felt that she missed opportunities in networking and personal growth.

Brad did not express a personal need that was not fulfilled through prior learning assessment. He spoke very favourably of the

course and his experience in preparing the portfolio. Brad believed that a need may not be met for the college because the portfolio development course is not well advertised. He felt that there are a lot of people similar to himself and that the course could make others aware of their higher abilities.

Since Norman did not pursue a college diploma, the portfolio development course had little to offer him personally. It was not until he changed his focus to a university that constructing a portfolio became worthwhile. By structuring the portfolios to matching, Norman felt that the portfolio development course appeals more to individuals who desire a college credential. He also thought that the message from the advertisement "the things you had done in life" meant something different than course matching.

The two learners who completed the portfolio felt that needs were not met when they have their portfolios assessed. Leanne can't understand why some facilitators refuse to access portfolios if it is a course that they have been teaching. She also believes that there are those facilitators who find it difficult to trust the documentation. Tony felt that, in some cases, it took a long time to have portfolios assessed. He stated that there was some uncertainty about the process and as a result there was a "wait and see" attitude. Leanne also felt that PLA did not receive enough support. She cited a lack of funding as the problem. Since students pay to have their portfolio assessed, Leanne believes that the college could generate income through the portfolio process.

Other Interpretations

During the interviews three other interpretations emerged. These are explained below.

1. Influence of Instructor

All of the learners felt that Peter, the PLA instructor, and other teachers even employers assisted them in some way. The experiences that Teresa included in her portfolio were determined by her perception of what the assessor would want to see. She felt that the guidance that she received from her teacher was very important when she prepared the portfolio.

Diane worked with Peter more than the user guide. In the portfolio development class Diane frequently sought clarification. She also called him outside of class on the telephone. She submitted drafts of her portfolio to Peter and included those experiences that he recommended. Diane felt that Peter's enthusiasm with PLA inspired her to remain in the course and continue the process during the next semester.

Brad believed that Peter improves his portfolio through careful editing. He believes the changes that Peter suggests gives the portfolio more focus and will probably be more successful when it is used as a challenge for other courses.

When Norman realized that he did not want a college credit, the instructor found a university where he could direct his portfolio. Norman continued to work with Peter to find more about the PLA program at the university.

Leanne had support from her teachers and her employer. She felt that she would not have continued the process unless she had that support. Peter assisted Tony on his portfolios. Tony called the instructor a mentor who had the ability to draw parallels from prior learning to the outcomes of college courses.

2. Experience with Portfolio Assessment

Although all learners have some experience with assessment it was interesting to reveal Leanne and Tony's experiences since they have both used their portfolios to challenge other courses. Leanne had an unpleasant experience when her first portfolio was assessed. After submitting her portfolio for an assessment, the faculty member who evaluated her portfolio had her complete two typing tests on an electric typewriter and an interview. Leanne was with the assessor for four hours. This was after she had completed a full day's work. Leanne felt frustrated, tired and left the assessment somewhat discouraged. Despite this unpleasant experience she received two credits at this time. Also this particular assessor has been helpful with other portfolios that Leanne has prepared. Not only has she assessed some portfolios, this faculty member has found other faculty to perform the portfolio assessment.

Tony believed that everyone was helpful with the assessment process. He believed that some of the problems with assessment were due to inexperience of faculty. He now believes that experience has improved the process. Another problem was that the programming courses that were taught at the community college were identified to specific computers which may not have been the same one used at

work. In some cases it was therefore difficult to match the learning outcomes. Tony believed that in some cases the teachers had to rethink their outcomes and relate what actually occurred in the course rather than thinking in specific programs or machinery.

3. Institutional Barriers

Leanne expressed a concern about the scheduling of courses at the college. Because Leanne works full-time she would like to complete her course in the evening. The college does not offer all courses part-time. Unless Leanne can have time off work to complete the course, she will have to make other arrangements, possibly a portfolio challenge. Leanne elaborates:

> Now I'm coming to the point where I don't know what I am going to do. I only need five courses. Two of them aren't offered at night. The teacher wouldn't do a learning contract. So how am I going to get these courses? I guess I will see if she will accept a portfolio. If not accepted, I guess I'll have to take these courses during the day. The nice thing about working here is that they will allow you to take courses if it doesn't interrupt your work. If the course is in the morning or afternoon that would be fine but if it is spread out during the week, I may not be able to do it.

Learners Who Did Not Pursue the Portfolio Process

In order to compare the findings from the previous group which had engaged in the portfolio process, interviews were conducted with three full-time mature students. Brenda, Don and John are currently enrolled in a two year Social Workers program at the same college as the previous learners.

Brenda is a mother in her late thirties and has been a credit collection manager. She currently operates a successful instrumentation business in the trucking industry. Brenda started working after she completed high school.

Don is fifty-two years old and has served a good deal of time in various correctional institutions. Don has had extensive academic upgrading to the point where he qualified for the social workers program at the college.

John is in his mid-twenties. He completed the Canadian Adult Achievement Test which allowed him full secondary qualifications. Prior to entering the social workers program, John worked in the logging industry.

These adult learners did not take the portfolio development course or use portfolio assessment as a way to reduce the time required to complete their college programs. Brenda, however, has received four exemptions for her previous learning.

Since these learners did not prepare portfolios and the research question related to the portfolio development process, I had to make a slight modification for these learners. For instance, for the interpretations of cognitive development and metacognition I related their prior learning to their current college courses. In

that way I could compare their responses to the other two groups that engaged in the portfolio process by relating my questions to what they learned in their program and how their prior learning influenced their perception of learning.

Perception of Learning

Brenda attached economic significance to her learning. She felt her previous business success has allowed her to go back to school. Brenda also believes that her maturity has led her not to prejudge people like she once did. Brenda feels that a lot of the college courses deal with common sense, however that common sense comes with maturity. The following passage illustrates how Brenda perceives the significance of her prior learning:

> I think that one continues to learn throughout their life, whether that be intentional or unintentional, however, I think we mature on a more conscious level. I also think that prior learning through working and responsibilities helps us mature, which in turn aids in our learning abilities.

Although Don acquired life skills before going to college he recognizes the importance of the learning which he is now receiving. He believes that everybody has the capacity to learn and he continually learns. His success at college has increased his self-confidence. Don would like to use his life skills and talk about his experiences to those he can help. The following passage illustrates Don's perception of learning:

> I have a tutor alongside with me at school. There are various places where I have to say "How do I do this?" In fact one of my instructors said that I have never seen you use words like this before. I said I'm tuning, I'm growing. And don't we all learn as we grow? The educational factor of life is we all learn. And the

> biggest scope of life is to recognize that we all can learn. I don't care who we are or what where are or where we have been nobody is greater or lesser than anybody else. And that is the philosophy that I've grabbed a hold of.

John also recognizes the importance of the learning he is now receiving at college. He believes that everybody should live up to their potential. John has learned to accept the opinion of others, particularly the facilitators. John believes that the college has opened his eyes to academic learning and he is proud that he can comprehend that. John's philosophy of trying things out is reflected in his perception of learning as exemplified in the following passage.

> I just feel that anybody who has been working and find themselves in my situation I would urge them to look at their potential in life. There are a lot of people out there with a lot of good talent that I know are wasting good potential. Personally I think if you have been at work and go back to school you are there for some reason. Give it your best. Do the best you can. Don't get hung up on grades. Do the best you can and the marks will come naturally. I've learned a lot about different areas of education that I never even touched on. I think ten years ago if somebody had of asked me about psychology or taking a course in psychology I would have laughed about it. If you leave yourself open and try not to get bogged down with the terminology you will do just fine. People are more intelligent that they think. I mean I've lived through it so I know. That's my opinion based on my situation.

Learning Style

Don now has the confidence to do a written test. He believes he has the ability to learn. He developed that ability because people believed in him. Don requires support. That support gives Don the ability to believe in himself. It was merely an observation or suggestion by one of Don's classmates that gave him the confidence to do better on the second written test. Don could always do quite well on verbal tests and he now has proved to himself that he can succeed with written tests. The following passage illustrates how Don made the transition from verbal to written tests with continuous support of others:

> I wrote my first test and came out with sixty-eight percent in sociology and in another test I came out with seventy-two percent. That was human relations. And as I did that a little girl came across to me and she said you know Don you've forgotten about where you've come from. You can learn as good as anyone of us here. You watch the nex time you write a test. I was feeling pretty low about t..t mark. And I never forgot that. I took that as a learning lesson. That little girl leaning into me saying you're as good as anybody else. The next time I got eighty-two percent. Then I got ninety-six percent and it just escalated from there. Even from verbal into written tests. I guess I'm saying that we all can learn. We just need the right tools, the right people, people with the right intentions, the right support. If we have those support systems and people are willing to take and give those support systems, anybody can learn.

John believes he has a good memory and has the ability to reason things out rather than doing things irrationally. He has done well in written assignments and likes subjects like psychology and sociology. John believed that he had developed gross motor skills with his previous work experience. He described himself as a rational person. In the following passage, John addresses his analytical skills:

> In my job I was always challenged physically never mentally in a sense. I mean when I was on maintenance there was a lot of thought that had to do into different areas but again what it came down to was grunt work. It was a strong back and a weak mind and way you go. Whereas here it just the reverse. I mean thank goodness I have the ability to reason things out. I have a relatively good mind. In public school I was pretty much an A student. I can recall those times quite vividly so my memory is pretty peak. I excel with that. I have the ability to reason things out rather than running irrationally. It is just something that I've always done and I always will do.

Metacognitive Abilities

The portfolio is not the only way to recognize metacognitive abilities. Since Brenda, Don and John did not prepare a portfolio I investigated their metacognitive abilities from the perspective of their prior learning.

Brenda enjoyed writing but not mathematics. She found algebra difficult. She felt that it did not have to do with the abstract nature of mathematics because in English she could make sense out of abstract concepts like imagery. For Brenda, words had more meaning than numbers. In the following passage, she explains:

> I like abstractions in literature but not in mathematics. I think that is the difference between formulating letters together that can make a word but formulating numbers together means nothing. If you were to ask people to memorize groups of numbers they can't memorize them as well as groups of words. Words give some significant meaning where as numbers just don't mean anything.

Don described himself as a practical learner. He has to go over material two or three times before he understands it. Don feels that once he understands a concept he retains it. Don feels that the end result is the same so it doesn't really matter if he

needs to spend more time than somebody else. The social workers program at the college has improved his self-confidence. In the following passage, Don describes how he came to understand his ability to learn:

> I have a strange way of learning. I was absolutely convinced that I couldn't learn in life. Any type of abstract or educational learning from someone else. I was really convinced I couldn't learn. I really had to work on the fact that I could learn. To be fair to you I went to a lot of places that a lot of people shouldn't have gone. But that also taught me a lot of life skills to. I started realizing that I could learn. I was considered a learning disability. I had a very strange way to learn. I have to go over things in a practical sense sometimes three times for me to get what I need but I finally get it.

John was surprised to find that he has excelled in psychology and sociology since taking his program at college. John has persevered and adapted to situations in his prior learning. These characteristics have enabled John to appreciate his understanding of subjects that he is now taking as part of his college program that he was totally unfamiliar with in his previous working experience.

Evidence of Learning

The portfolio is not the only way in which organizational and communication skills improve. Since Brenda, Don and John did not prepare a portfolio, I looked at how their organizational and writing skills improved as a result of their prior learning.

With Brenda's past business experience she has developed many administration skills. Organizational and communication skills were enhanced from her participation in fund raising activities, credit management, sales and running her own business. In the

following passage, Brenda describes how her work experience provided a foundation for administration skills:

> Even though I have been highly administrative it is the organizational abilities that enable me to be able to effectively be a fund raiser or coordinate those types of skills. My work experience enhanced greatly my communication skills. My people skills. My ability to be social.

Brenda has also written short stories and poems for publication.

Since Don had little formal education he believes that he acquired a variety of life skills from his prior learning. When he was a liaison with a company that sent employees different drug and alcohol rehabilitation programs, Don wrote reports on their achievements. Although Don recognizes the importance of skills acquired from his prior learning, he values the skills he is now acquiring since he entered the social workers program at the college. He describes this situation in the following passage:

> You can go a long way with life skills. I was a working foreman at the end for a manufacturing company. I was probably making 60 G's a year with no education except life skills. Is life skills better or is education better? I think you need both. You need life skills and you need education. If you don't have both you will fall somewhere or have that insecurity. I feel much more comfortable now. I could never have come in here like I'm talking to you six years ago. Forget it. A waste of time. But now since I have come here, taken the general arts and science and this social services program I can talk quite fluently.

John's social skills were exemplified in his ability to analyze a situation and adapt to it. He also had the ability to interact with people in a non threatening manner. The following passage shows how John used his skills in conflict situations:

> I think that my ability to interact with people has helped me out because I've never been involved in too many conflicts, but I've been able to help people in

> conflicts. When I intervene, I lighten up the air and bring a little more common sense to the scene or the situation. Get away from the tension. I like to joke around. I guess it would appear that I don't take a whole lot of things seriously because I can find humour in almost any situation. If it is a situation that can be either lightened up or changed I will do whatever needs to be done. So that is one area of my skill. I always try to analyze things. I really have to look at things.

Learners' Needs

All of the students who prepared the portfolio except for Norman stated that the portfolio process allowed them to receive credits faster than taking a full course load. Their prime reason for entering college and pursuing a diploma was to receive a credential. Brenda, Don and John pursued a college diploma for the same reason. John explained:

> Nobody is going to gain anymore than the next person. When its all said and done we'll all hopefully walk out of here with a diploma or certificate. That's what I'm looking at right now. I'm also looking to get back in the workforce.

Although Brenda, Don and John did not take the portfolio development course, they did cite reasons why they were not interested in it. Brenda felt that there was more work in the portfolio development course than actually taking the placement course. If she had taken the portfolio development course this is probably the course she would try to match. She also felt that she could receive a higher grade than an assessor would give her by taking the course rather than challenging the course through the portfolio process. She also expressed one of the major criticisms about the portfolio process. In the following passage, Brenda

described her frustration when she inquired about the portfolio development course:

> It became a major inconvenience for me because the portfolio development course was only available on a Tuesday evening which was the one night a week that I could not go. I spoke to her (the portfolio development course instructor at the time) about that plus I would still be taking a full course load during the day. It was going to be more time consuming to do that portfolio and it would to do the placement. So I just did the placement. I thought the placement would be a breeze compared to having to put this portfolio together. Plus you have to dig all the information from previous employers. Most of them were in Toronto or some other centre and it was so long ago, chances are they would not even remember me.

Since Don has had a lot of upgrading he believed that he needed to take the courses in his program. Don also had difficulty writing tests when he first started the program, therefore he did not want to challenge any courses. In the following passage, Don explains why he did not pursue PLA:

> Somebody did say that I could take my past experiences and get some credits for certain things. I've never gone forth to see about it. I think it is better to take the course.

John wanted to experience the program rather than challenging courses. He elaborates:

> I didn't pursue PLA because to get into college I had to do the Canadian Adult Achievement Test which allowed me full secondary school qualifications. I really want to experience the program. I don't want to write a test and have someone say OK you did really well. I may have done really well on a test but could I do it in practice. I mean a person can change a flat tire or have a flat tire changed. It is that type of mentality. Again I haven't been working for since 1990 and the past two years is the time I have been given for retraining so I really want to maximize my potential. Again if I hadn't experienced this program I think I would have been less capable when I get out into the field. I really feel that you need the practical as well as the theory. These two years have given me both because they really have incorporated

both of those into the programme.

Influence of Instructor

Brenda is a self-motivated individual who can pursue actions on her own. She does, however, understand the path necessary to pursue her program. When Brenda wanted an exemption from a course she went to the instructor and obtained it. Don has received support from all of the instructors at the college. He respects their guidance. John sought advice when he decided to enter the social worker program at the college. He looked at what areas interested him and if there was future potential within that field. He appreciates the critical feedback from the facilitators. Even when John attended elementary school, he appreciated the discipline inspired by his teachers. The discipline to excel has continued throughout his adult life.

Institutional Barriers

Of the three learners who did not take the portfolio development course as part of their college program, Brenda identified an administrative barrier. Brenda wanted to complete her program in less than two years. She has attempted to do this by taking night courses. The problem seems to be that not all courses are offered at convenient times either during the day or the evenings. It was impossible to complete the program within a student's time frame. Therefore the availability of courses meet the program's needs but not the student's needs. Consequently Brenda took the two full years to complete her program. Brenda

realized that the only way to complete her program would be to take the courses when offered by the college. Brenda described her dilemma:

> The problem is you can't get through the system in one year. I did take night courses and this is the first semester that I haven't had a hole in my schedule somewhere. The problem with a two year course is that there is that the first and second year classes conflict so when I had an open hole in my schedule there was no second year class at that time slot or vice versa, so I could never have taken the two year course in one year. One semester I had three courses and I was full time. The way the time was structured I couldn't fit any other courses in.

Summary of Prior Learning from the Nine Learners

Each participant understood and made meaning from their prior learning in a variety of ways. This section relates the interpretation of their prior learning by summarizing the nine learners independently. I will conclude with suggesting similarities and differences between the learners who prepared portfolios and those which took a full course load by commenting on the significance of their prior learning.

Learners from the Portfolio Development Course

Teresa

Teresa believed that learning on the job is often taken for granted. Writing a portfolio has assisted her in an understanding that one learns on the job, it is not merely performing specific tasks. She described herself as a "hands on" person that is action oriented. Teresa believes that the construction of a portfolio improved her organizational and writing skills. Since Teresa works full time, she believes that she will receive credit for her prior learning by completing a portfolio and thereby she has taken advantage of what she has learned on the job. Teresa understands that she still needs to take some courses to complete her program. Although Teresa has some experience with interviewing and counselling as a case worker, she feels that college courses in these areas will improve her work performance. Teresa was encouraged by the guidance received from her instructor.

Diane

Like Teresa, Diane believed that individuals learn on the job. Since the portfolio process requires that individuals reflect on their learning and consider learning from experience rather than identifying experience, Diane felt that constructing a portfolio helped to clarify this.

Diane felt that her learning style depended on the situation. She felt that her hobbies such as reading religion appealed to an abstract conceptualization, while her business experiences were more

related to concrete experiences. Diane enjoyed writing the portfolio because she didn't have the opportunity to practice her writing skills at work. She also believed that the portfolio greatly enhanced both written and oral communication skills.

Diane believes that the use of portfolio assessment will accelerate her learning and she can receive a business diploma in a shorter period of time than taking a regular course load. Despite experiencing a growth in self-esteem, Diane realizes that a portfolio does not replace any learning that she could have gained in an academic institution. She felt that if she went to college or university directly after high school, she may have developed personal growth in other ways. Diane appreciated the assistance from her instructor when she was preparing her portfolio.

Brad

Before taking the portfolio development course, Brad never thought about learning on the workplace. Since constructing the portfolio, Brad believes that the learning acquired at the workplace was meaningful. From his business experience he understands concepts which he is now learning in college.

Brad believes that he has strong interpersonal skills and likes to solve problems. The portfolio development course increased Brad's self-esteem as he has a record in the portfolio that shows continuous improvement. Since the construction of a portfolio requires writing a biography and locating appropriate documentation, Brad believes that the portfolio process has improved his organizational and writing skills. For Brad, the portfolio

development course satisfied the following needs: (a) determine goals by focusing learning; (b) identify courses to challenge for academic credit; (c) accelerate progress in college program to reach his ultimate goal, obtaining a credential; and (d) able to formalize his non-school learning. The portfolio development course fulfilled Brad's needs. His only criticism was that the college did not promote the course enough.

Brad believes that Peter improved his portfolio through careful editing. He was particularly grateful for the comments which forced Brad to focus his learning.

Norman

Although Norman did not complete a portfolio during the course, constructing a portfolio offered him a way to understand and make meaning from his prior learning. Norman believes that learning occurs in both the workplace and everyday life. He believes that experience allows one to view learning from different vantage points.

Norman prefers practice to theory. He finds it difficult to retain theoretical knowledge if it has no practical application. Norman made reference to the difference between institutional and prior learning. He feels that institutions use tests to improve performance rather than evaluating knowledge.

Norman feels that constructing a portfolio can improve organizational and communication skills. He feels that the main limitation with the portfolio development course is its emphasis on course-matching. Norman pursued the portfolio for other reasons.

The message on the advertisement for the portfolio development course indicated that an individual would be given academic credit for what was accomplished throughout his or her life. This meant something different than course-matching for Norman. Despite this limitation the portfolio development course did offer Norman a need which could be satisfied. He is using the same process to construct a portfolio for admission to a university. Norman is also using the assistance from Peter to pursue this objective.

Learners Who Have Used Their Portfolios for Assessment

Leanne

Leanne believed that the reflection process involved in preparing a portfolio allowed her to understand the significance of her prior learning. She prefers practical work to theory. Leanne prefers to work independently, which is a requirement for constructing a portfolio. The portfolio process also increased her self-confidence and communication skills.

Leanne has received support from both her instructors and employer as she has pursued PLA through the portfolio process. Leanne has used her portfolio to challenge a variety of courses so she will be able to accelerate her progress through the office administration program.

Leanne felt that some faculty were unwilling to assess portfolios. Some of the faculty involved in assessing portfolios found it difficult to trust the documentation. Leanne expressed concern that some of the courses required for her program cannot be

taken in the evening. This causes problems if faculty of that course do not do portfolio assessment.

Tony

Tony continually sees the need to upgrade. By continually upgrading your portfolio it can serve as a documentation for that function. Tony believes he can apply abstract concepts into concrete settings. He prefers to work independently through short courses which is specified to a specific task. Tony believes that the construction of a portfolio improves organization and communication skills. He described the portfolio as a portable document which could assist individuals when they were seeking employment.

Tony prepared many portfolios with the assistance of Peter. Tony felt that Peter assisted him in drawing out the parallels between his prior learning and specific course outcomes.

Learners Who Did Not Prepare a Portfolio

Brenda

Brenda believes that her prior learning has assisted her in a number of ways. There is an economic significance to her prior learning. Brenda would not have been in a position to come to college had she not been successful in business. Her business experience and maturity have enhanced her organizational and communication skills. Although Brenda has been successful in business she prefers writing to studying mathematics.

Brenda did not pursue the portfolio development course for the following reasons: (1) it was not offered at an appropriate time in her schedule; (2) the course was extremely time consuming; (3) there may have been problems with documentation; and (4) she probably would do better academically if she took the course.

Brenda is a self-motivated individual who seeks assistance only when required. She returned to college to earn a credential. Brenda has found that she could not complete her program in less than two years because the course required to complete her program was only offered at specific time period. She found it frustrating that she would have to take the course when offered if she wanted to complete her program and receive a credential.

Don

Don believes that he has the capacity to learn and is encouraged by his progress in college. His prior learning mainly consists of life skills. Through upgrading and continual improvement, Don has progressed academically and is doing well in his current college program. He can now write tests with his fellow classmates.

Don was aware of prior learning assessment through the portfolio but he was not interested in it. He prefers to take courses. Don appreciates the support he has received from the college faculty.

John

John's perception of learning has changed since he returned to college. Through his college studies, John has learned to develop an appreciation for psychology and sociology.

John tends to think through problems and has strong analytical skills. He has never been in too many conflicts and has the ability to ease tensions in conflict situations.

John did hear about prior learning assessment, but he would rather experience the program. He feels that the program offers the necessary theory to apply in practice which will make him more competent in the field.

John believes that the instructors have been extremely supportive in his studies. He appreciates the constructive criticism he received as a way to improve his work.

Significance of Prior Learning

The learners who prepared portfolios attempted to transfer their nonsponsored learning into college credits. This was accomplished through a specific framework whereby the learner identified the experience, described that experience and related the experience to specific course outcomes. For these learners their prior learning was channelled into learning outcomes. By going through the portfolio process, these learners viewed their prior learning as a way to decrease the time necessary to complete their programs. Each of these learners were entering a college program that was similar to the context where the nonsponsored learning was acquired. Teresa worked as a case worker and was taking the social

workers program at college. Brad, Diane and Leanne had acquired business skills and were taking a business related program at college. Tony had twenty five years of experience with computers and was formalizing his prior learning in that area by taking the computer technology program at college.

In addition to matching prior learning with specific course outcomes, the portfolio process offered a way in which learners could view their prior learning. Although these learners expressed their nonsponsored learning in terms of learning outcomes, they had definite views on the importance of the learning that they had acquired in non-school settings such as the work or at home. They viewed learning as a process. While engaged in the portfolio process these learners reflected on their accomplishments and developed cognitive skills, such as writing and communication. They also came to an understanding about how they learn by describing particular learning styles which appealed to them. The portfolio process also encouraged personal growth.

Prior learning had a different significance for the learners who did not pursue the portfolio process. These learners were full-time students pursuing a full-time college program. Since these learners did not work in the same field as their college studies, they made no attempt to transfer their nonsponsored learning to specific college course outcomes. They were more interested in taking the courses at college to experience their programs. Although these learners did not identify specific courses from their nonsponsored learning, their prior learning influenced their approach to their college studies. These learners identified the

importance of theoretical and practical knowledge. Although they believed that prior learning assisted their communication and written skills, the college courses were developing these areas further. Since they were progressing successfully in their programs, there was a positive feeling of growth. They also appreciated the assistance received from faculty.

CHAPTER 7: ANALYSIS AND DISCUSSION

The purpose of this chapter is to examine the data in more detail by analyzing the findings from the previous chapter and relating it to how these learners understood and made meaning from their prior learning. Since this study focused on a learner's perspective many of the initial and emerging interpretations could be combined. For instance, perception of learning included metacognition, learning styles and cognitive development. Therefore the analysis and discussion will not necessarily follow the interpretations established in the previous chapter. The literature will be revisited to examine the emerging themes of knowledge, the relationship of non-institutional learning to academic settings, and implications for prior learning assessment. The purpose will not be to corroborate or verify the findings but to expand the discussion by examining the themes which emerged in the study.

Tacit Knowledge and Implicit Theories

The participants in this study attached significance to their prior learning. The learners felt that they could deal with new situations because of their previous life experiences. They had an understanding that the learning from work experience provided some benefit with their college program. Also this type of experience and other non school experiences played a major role in how they viewed the significance of their prior learning. The learners realized that learning occurs throughout their lifetime and

sometimes it just seems natural to do a task or think about something in a certain way.

The portfolio process encourages reflection. The learners who prepared portfolios were in a continual dialogue between understanding their experience and identifying the learning which occurred as a result of that experience. During the interviews, these learners felt that they could understand the difference between doing a job and identifying the learning which occurred as a result of it. This was confirmed in their portfolios when the learners completed their competency statements.

The learners were reflecting on their prior learning throughout the construction of their portfolios. Schon's (1983) phrases such as "thinking on your feet", "keeping your wits about you" and "learning by doing" suggest that individuals think about something while they are performing some action. Schon (1983) referred to two types of reflection: (a) Reflection "in action" occurred during a particular task; and (b) Reflection "on action" was how individuals thought about what they did. The learners were reflecting on their prior learning when they organized their portfolio. The life history paper represents a reflection by the learners on their prior learning --- a reflection "on action" after the fact. Although the college and learners recognized that the significant prior learning experiences are those which could be identified as college-level learning and specifically equated to a particular course, the learners appreciated all their previous accomplishments. Through reflection, the portfolio process allowed these learners to create

meaning from their prior learning. By interviewing the learners who chose not to take the portfolio development course an opportunity was given to them to reflect on their prior learning. The courses that these students took at college did not allow for a continuous reflection on their prior learning. These learners made a distinction between prior learning and the learning which occurs at school. They did not directly relate specific functions at particular jobs with college course outcomes. They did not attempt to transfer their nonsponsored learning to their college programs. Prior learning was important for other reasons. Brenda, Don and John all felt that they had developed their organizational and communication skills as a result of their prior learning. These attributes contributed to their success in their college programs. Because of their success, these learners held positive feelings at school.

During the interviews the learners who prepared portfolios preferred courses that had a practical or "hands-on" component rather than courses that were highly conceptualized and abstract. Although individuals such as Tony and Norman could understand theory they liked to apply the theory into their daily activities to make it meaningful. This is why Norman explained that he was not interested necessarily in the law of physics but it was its relationship to optics that he found intriguing. Similarly Tony stated that he has a way of applying abstract knowledge into a practical situation. Part of this ability, he believes, comes from his training in computer programming and his experience reading and comprehending computer manuals.

This preference for subjects with a practical component can be explained from two interpretations. One is that individuals attract certain types of learning styles. Kolb (1984) identified two ways of taking in information (from concrete experience to abstract conceptualization) and two ways of processing information (from reflective observation to active experimentation). The learners that preferred courses with a practical orientation would probably prefer concrete experience to abstract conceptualization.

Another interpretation that deals with the preference for subjects with practical applications over understanding abstract concepts could be explained by the notion that individuals usually operate from informal rather than formal theories. Implicit theories are developed over a period of time and influence our actions. Schon (1983) describes this as tacit knowing based on intuition:

> When we go about the spontaneous, intuitive performance of the actions of everyday life, we show ourselves to be knowledgeable in a special way. When we describe it we find ourselves at a loss, or we produce descriptions that are obviously inappropriate. Our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is in our action. (p. 49)

Schon has been influenced by Polanyi (1966) who identified tacit knowing as the basis of human knowledge.

The prime objective of the portfolio development course is to equate the learning outcomes from one learning site, such as learning from a job to specific college course outcomes located at another learning site. The learning site where learners revisit in the construction of their portfolios is based on tacit knowledge.

Part of the reason why the portfolio learners preferred subjects with a practical component may be that these subjects or this way of knowing better reflected the type of learning that went on in a different learning site.

A Question of Knowledge

Although supportive of the principle behind prior learning assessment, Michelson (1996a) criticized the role of the academy which she refers to as both the "epistemological authority" and the licensing body and those served by them, namely the learners. The criticism is based on a type of knowledge imposed by the academy. This knowledge must appear objective and meet standards required by the college. According to Michelson (1996a), the academy perpetuates Enlightenment Theories of Knowledge which claims knowledge to be universal:

> To be accredited, knowledge must be detached from the site of its production and be "transferrable," to use the standard word, both to other sites of action and to the academic environment. Because knowledge will be assessed, not for its immediate relevance, but for its similarity to academic ways of knowing, the university replaces the original site of production as the place from which knowledge is valued and meaning assigned. Thus, for all its radical implications about the sites from which academically valid knowledge can be generated, APEL (Assessment of Prior Experiential Learning) replicates the irony at the heart of Enlightenment theories of knowledge: while the experiential origins of knowledge are acknowledged and, indeed, extolled, knowledge is credited only to the degree that experience has been transcended, so that both the site of its production and the particularities of the self has been excised. (p. 190)

Portfolios are constructed in a specified manner. The example at the college in this study is not much different from other

colleges. These include an autobiography, a chronological record, identification of learning outcomes, verification of learning and matching competencies. The narrative imposed on the learners produces an abstraction of knowledge based on experience. Experience happens first and knowledge is a byproduct of experience acted upon by reason. Constructing the portfolio utilizes the same chronology: "first revisiting and describing the original experiences, then reflecting on and identifying the knowledge thus produced" (Michelson, 1996a, p.188). Both the structure of the portfolio and the kind of knowledge imposed on the learners is determined by the institution. This situation becomes most apparent when the learner attempts to match the learning outcomes from experience to the learning outcomes prescribed in a course outline.

Portfolios offer an alternative view of knowledge and knowing if the academy can recognize that learning which adults bring with them are both credible and creditable. In New Zealand, for instance, the Qualifications Authority have recognized that knowledge is culturally specific and included among its standards the Maori traditions of learning which hold that knowledge is collectively owned by the community (Michelson, 1997). The following passage shows how standards have been framed to reflect the Maori communities:

> People credited with this unit standard are able to analyze organizational and job structures for tribal and sub-tribal organizations urban Maori authorities and other selected Maori organizations by incorporating collective ownership and responsibility (New Zealand Qualifications Authority n.d.).

New Zealand has recognized that Maori have their own assessment

procedure for traditional skills such as carving. The Maori have been included in the granting of educational awards. This implication leads to the view that mainstream professional and academic experts should not have the exclusive rights to assess learning. Assessment policies should embrace shared responsibilities (Michelson, 1997).

Thomas (1991) believed that the formal system should recognize learning from outside the academy to enhance its certification role:

> By implication in fact, prior learning assessment enhances that value by extending certification even further across the Learning Domain. Instead of allowing the Learning Domain to penetrate, enliven, and reform the Educational Domain, therefore, prior learning assessment programs might simply help the Educational Domain "capture" the renewed vigour and scope of the Learning Domain by claiming that learning accomplished in the latter becomes valuable or significant only to the extent that it can be or has been assessed by the formal system. Such a destructive occurrence can be prevented only if the agencies of the Educational Domain respect the integrity of learnings and the learning that they bring with them. Only if these agencies "listen" to the Learning Domain, constantly examining what they are teaching in the light of what is being learned elsewhere, will the gap be bridged in both directions. (pp. 181-182)

Both Michelson by questioning the type of knowledge institutions deem important and Thomas through his promotion of the Learning Domain recognize the importance of the learners and their prior learning. In this study, the learners felt that the learning which they had acquired through informal settings were valuable in both the Education and Learning domains.

View of Assessment

The portfolio process has provided an opportunity to consider alternate forms of assessment. For the learners who prepared portfolios, they believed that their prior learning was valid and could be equated to specific college courses. This is much different from the view that the contents of a course can only be measured through traditional forms of assessment, such as testing. Moss (1996), for instance, believed that educational measurement should use alternate forms of assessment that would:

> . . . enable us to support a wider range of sound assessment practices, including those less standardized forms of assessment that honor the purposes teachers and students bring to their work; to theorize more productively about the complex and subtle ways that assessments work within the local contexts in which they are developed and used; and, most importantly, to support a stance of ongoing critical reflection through which assessment theory and practice can evolve. (p. 20)

Gardner (1983) questioned not only the validity of intelligence tests but the one dimensional view of how schools use a corresponding view for assessment. He refers to this corresponding view of the school as the uniform school. According to the uniform school there is a curriculum that everybody should know and there are very few electives. The better students may take courses in critical reading, calculation and thinking skills. There are regular assessments using pencil and paper instruments similar to the Scholastic Aptitude Test (SAT) or IQ tests. Although this system works well for some schools, and Gardner sights Harvard as testimony to this fact, he offers an alternative view.

Gardner believes in an individual centred school that offers a pluralistic view of mind recognizing that people may have different

cognitive strengths and contrasting cognitive styles. Gardner believes that intelligence is multi-faceted, and determined not solely by test scores and correlation studies but through naturalistic sources of information, namely how people around the world develop skills important to their way of life. Gardner identified the following seven intelligences: (1) linguistic intelligence; (2) logical-mathematical intelligence; (3) spatial intelligence; (4) musical intelligence; (5) bodily-kinesthetic intelligence; (6) interpersonal intelligence; and (7) intrapersonal intelligence.

Gardner (1993) believed that schools focus primarily on the first two intelligences -- linguistic and logical-mathematical, and need to expand its role:

> In my view, the purpose of school should be to develop intelligences and to help people reach vocational and avocational goals that are appropriate to their particular spectrum of intelligences. People who are helped to do so, I believe, feel more engaged and competent, and therefore more inclined to serve the society in a constructive way. (p. 9)

During the interview, the participants constantly referred to the difference between what they learned in the workplace and what they learned at school. Norman commented at length about the inability of a test to measure his experiences in the Higher Arctic. Yet he maintains that this experience probably was more than he would get in any sociology or psychology course. Similarly portfolio assessment utilizes experience which may not be limited to the two intelligences stressed through schooling.

The portfolio offers the opportunity to include other intelligences acquired from nonsponsored learning. Brad mentioned

that he probably learned more from his work experience than he did in school. He believed that what he learned outside of the school environment was probably more of an education than what he received at school. Gardner supports the use of portfolio assessments for college admissions. Although more expensive to administer, Gardner (1993) sees the value of portfolios in predicting student success:

> Collections of projects, in the guise of portfolios, would constitute a revealing part of every student's dossier. I would wager that records documenting successful (and unsuccessful) projects would have equivalent predictive value about success about success in college and better predictive value for success following college. The time spent by admissions committees in examining portfolios or records of projects would be well spent. (pp. 184-185)

All participants stated that they preferred practical work to theory. According to Kolb's (1983) cycle they would prefer concrete experiences to abstract conceptualization. Although Kolb's cycle was not used in the portfolio development course at the college selected for this study, it has been utilized at other colleges. Information about learning styles is usually presented after the autobiography has been written. In addition to identifying which learning may be at the college level, students read about Kolb to come to some understanding that they may have a particular learning style. This understanding may help students select future courses at college which are conducive to their learning style.

Although there was no identification of learning styles exercise in the portfolio class, it did influence the choices that these learners made in selecting which experiences the learners would include in their portfolios and which courses they would challenge for credits.

Definite views of assessment were held by learners who did not pursue the portfolio process but took a full college program. John was comfortable that he could write tests effectively. He had performed well in school and appreciated the guidance received in elementary and high school. He desired to experience the college program partly because the knowledge he has received in psychology and sociology is so far removed from what he did prior to entering college.

Brenda was extremely confident about her academic abilities. She did not question the validity of tests or other assessment procedures in her program. She believed that it was much easier to take a course, she could get a better grade than preparing a portfolio and wondered how she could document her learning from previous employers that may not even remember her let alone recall what skills she had learned while she worked there.

Don required a great deal of academic upgrading to qualify for his college program. He has now learned how to write a test and be part of the regular class. Don does not have to go to write his test elsewhere or with the assistance of a tutor. Don also has experienced support from fellow students and teachers.

John, Brenda and Don did not use their prior learning for assessment purposes. Because of their academic success in their program, they accepted the institutional norms of assessment. The learners who prepared portfolios, on the other hand, were equating prior learning to specific course outcomes. When preparing their portfolios, the learners were constantly focusing their learning from experience to the institutional norms of assessment. In fact,

along with the specification of competency statements the institutional norms of assessment were providing a focus for the learners while they prepared their portfolios.

Implications for Prior Learning Assessment

Prior learning occurred at a particular learning site. These learners were attempting to equate prior learning from one learning site to another. Consequently the findings from this study revealed implications for prior learning assessment.

Advocates of PLA, such as the Prior Learning Assessment Advisory and Coordinating Group (1992) and Bragg (1997) identified many potential benefits of PLA. One benefit was that PLA helps reduce duplication of learning. By identifying prior learning experiences that match with specific course outcomes, the learners who prepared portfolios were hoping to receive an academic credit for the course and not have to re-learn previous material. In that sense, writing a portfolio does reduce duplication of learning if the portfolio is successful, if an individual receives academic credits. Both Leanne and Tony were successful in this one benefit that PLA offers.

Although reduction in duplication of learning may be considered a potential for PLA, the learners who decided to take a full course load, did not indicate problems learning previous material. Part of this could be explained by the fact that the significance of prior learning for these learners was not the same as the learners who prepared portfolios. The learners who prepared portfolios wanted to reduce the number of courses in their program and

portfolio was a way in which this could be accomplished. By receiving credit for their prior learning, the students who prepared portfolios selected learning experiences that equated prior learning to college. By doing this, the learners who prepared portfolios were reducing the duplication of learning. Thus, they could complete their program with less formal study at college.

Another potential benefit was that PLA facilitated personal growth of the learners. All of the learners who completed portfolios believed that they experienced an increase in self-esteem. This increase in self-esteem was a realization on the part of the learners that they had accomplished so much throughout their lives. This realization was incurred throughout the portfolio process. While constructing portfolios, the learners were continually identifying learning from experience. Consequently they thought in terms of the learning that they acquired on the job rather than specific functions that they may have performed during a job. The learners were also engaged in reflection on their learning throughout the portfolio process. The fact that they considered portfolio assessment as a way to receive credit for their prior learning was a choice that these learners made based on reflection.

The learners that took a full college program also felt that they had a positive feeling for their accomplishments at school. These learners wished to experience a complete college program. One of the advantages of taking a full program is to be open to new knowledge. This certainly worked to John's favour as he became interested in areas such as psychology and sociology. Had John never enrolled in a full-time program, he may not have taken these

courses and something would have been limited in his learning.

A major difference between the learners who experienced a full program and the portfolio students was that the former went into fields totally unrelated to their prior employment experiences. The portfolio learners focused their choice of programs in a similar field to their employment experiences. Although prior learning assessment offers potential benefits for learners, the college can offer similar benefits for those who wish to experience a full course load.

The ideals of prior learning assessment focus on the needs of the learner. The adult learner brings with him or her a wealth of experience which can offer a great deal to the educational institution. Much of the knowledge which has been attained in the workplace or other non-school setting represents tacit learning.

Although this is recognized in theory, educational institutions promote a type of learning that is acceptable to them. Michelson (1996a) referred to this type of learning as the "academic ways of knowing." The adult learner is encouraged to meet the academic ways of knowing and fit within the system to have his or her learning recognized. The adult learner is encouraged to meet the academic ways of knowing to have his or her nonsponsored learning recognized through the PLA process. In order to have their portfolio recognized for a college credit the learners in this study met the criteria imposed on them. Although some learners discussed barriers to PLA such as the reluctance of faculty to assess their portfolios, the learners who successfully receive a credit for their portfolio soon learn what is expected of them and can present their portfolios

in a manner which will be accepted by the institution.

Educational institutions promote the academic ways of knowing by granting educational rewards. PLA has the opportunity to recognize prior learning as equivalent to college-level learning by granting the appropriate academic award. The learners who prepared portfolios transferred their nonsponsored learning to learning acceptable to the educational institution and thereby received college credits. For these learners portfolio assessment can only be successful if they earn college credits.

CHAPTER 8. CONCLUDING THOUGHTS

Objectives of the Study

The purpose of the exploratory case study was to present a learner's perspective on his or her own learning while involved in the process of prior learning assessment. Specifically it dealt with how learners understood and created meaning from their prior learning. Those involved in the portfolio process understood and created meaning from their prior learning in a specific way. The significance of their prior learning had to do with the successful transfer of nonsponsored learning to specific college courses. The learners that did not prepare portfolios did not make the same meaning of their prior learning. It was not concerned with the successful transfer of nonsponsored learning. Rather, the significance of their prior learning had to do with their approach to college and the success they have received in their college programs. Although prior learning assessment uses both the challenge method and the portfolio process, the research focussed on the portfolio process because it best represented nonsponsored or prior learning. The following questions provided a focus for this study:

1. What is the learner's perception of knowledge and learning?
2. Are learners who engage in the portfolio process aware of their particular learning style?
3. Do metacognitive abilities become evident during the construction of a portfolio?
4. Is there evidence of cognitive development while preparing the portfolio?

5. What needs of the learners have been met or have not been met by the portfolio process?

Summary of Findings

The findings outlined in this section are summarized in relation to questions which allowed for the following interpretations: (1) perception of learning; (2) learning styles; (3) metacognitive abilities; (4) evidence of learning; and (5) learners' needs.

1. What is the learner's perception of knowledge and learning?

Many learners reported that they do in fact learn on the job. This was particularly true for the learners who prepared portfolios. Part of the reason for this was that these learners had to identify what learning occurred on the job. The knowledge considered important was that which could be transferred into specific course outcomes. The learners who prepared portfolios expressed learning in terms of outcomes as they were constantly engaged in matching nonsponsored learning with learning outcomes of specific college courses. The three adult learners who did not prepare portfolios felt that relevant knowledge was imparted within the courses. Their objective was to experience their college programs which consisted of a full course load. The adult learners in this study recognized the importance of both theoretical and practical knowledge.

2. Are learners who engage in the portfolio process aware of their particular learning style?

   The learners identified their learning style with such words as abstract, concrete, practical and problem-solver. Most of the learners preferred practical situations to abstractions. However some felt that they could apply abstractions to practical situations.

3. Do metacognitive abilities become evident during the construction of a portfolio?

   Through the life history and completing the portfolio the adult learners expressed that they had a better understanding of how they learn. Also positive feelings such as self-worth and personal growth were identified. The learners who did not prepare portfolios also stated that they knew how they learned because some things appeared relatively easy while others were much more difficult.

4. Is there evidence of cognitive development while preparing a portfolio?

   All of the six learners who prepared portfolios noticed an improvement in their organizational and communication skills. They also made meaning from their prior learning by realizing that they had learned a great deal in their life history. The three adult learners who did not prepare the portfolio felt that their personal history improved their organizational and communication skills. They also felt that they acquired

skills from their prior learning that could be adapted to their college program.

5. What needs of the learners have been met or have not been met by the portfolio process?

The needs met by the portfolio process included:

a) credit for work experience

b) accelerate progress in college program

c) increase confidence and self-esteem

d) relate prior learning to college-level learning

e) assist in planning goals

Some of the needs not met were:

a) prior learning did not cover all college-level learning

b) missed opportunities for personal growth and possibilities of networking.

c) portfolio development course not well advertised.

d) some assessors refuse to mark portfolios

e) uncertainty about assessment process

f) easier to take a course than prepare a portfolio

Additional Findings

This study embraced an emergent research design to include other interpretations. These interpretations are described below.

1. Instructor's Support

The learners who prepared portfolios all stated that the instructor assisted them through the process. Since their instructor has been an active supporter of PLA all accepted his suggestions and criticisms willingly. These learners also appreciated the opportunity to work independently. The learners who did not participate in the PLA process felt that the college instructors were extremely supportive. They also appreciated their instructors' criticism with their academic work.

2. Experience in Portfolio Assessment

This interpretation applied to the two learners who had used portfolios to successfully challenge other courses. It appears that it was much more difficult to have a portfolio assessed when they started the PLA process. One area of concern was the acceptance of assessors to participate in the process. Now that portfolios have been assessed for about three years the experience has made this process much more acceptable and assessable. Despite this favourable experience with PLA, there still are faculty that will not assess portfolios.

3. Institutional Barriers

It appears that some adult learners want to complete their program in a shorter time period. The learners experience has shown that not all courses are offered every semester at

accessible times, i.e. day versus evening. There is also a resistance by some faculty to assess portfolios.

Reflections on the Research

I would like to take this time to revisit the research and reflect on two areas. The first deals with the research process. The second part reflects on the findings.

The selection of a research topic grew out of a concern I had with the inappropriateness of the challenge examination to assess prior learning. After searching the alternatives to the challenge examination, I found that the portfolio process measured nonsponsored learning. Since there was no study which examined nonsponsored learning from a student's perspective I turned to the literature from areas such as cognitive science to provide that viewpoint.

Because nobody specifically wrote from a learner's perspective as they were engaged in the portfolio process, I was entering an exploratory study which had advantages and disadvantages. The main advantage was that this research was developing new ground within nonsponsored learning. Since learners actively participate in preparing portfolios and learn about the significance of their nonsponsored learning, this research presented an opportunity to express their viewpoints and present their stories. There is a disadvantage for doing this type of initial research. There is no data base with which to compare the findings from this research.

Since I was concerned with presenting a learner's viewpoint on nonsponsored learning, I followed an exploratory case study research

design employing qualitative research techniques. The results of the study were to form an initial interpretation based on a thick description described by the learners involved in the study. I chose a college setting that supported PLA, particularly the portfolio process. Data were analyzed from interviews, classroom observations and portfolios.

After analyzing the data, I realized that I had more data from the learners who prepared portfolios. This was evident in the chapter which dealt with the learners' profiles. For the learners who prepared portfolios, I had a copy of their portfolios which included their autobiographies. I was, therefore, able to report detailed information about their life histories. I did not have such documentation from the learners who did not prepare portfolios. The only source of background information came from the interviews. I also spent more time with the learners who prepared portfolios by observing the portfolio development classes.
This could be viewed as a limitation of the study. Despite this limitation, I gave detailed accounts of what was said during the interviews when I presented the results and analyzed the data.

During the study, I had no equipment problems taping the interviews. I also received full support from the participants in the study. This support assisted me throughout the research process.

Prior learning experiences influenced perceptions of learning. It influenced both how adults learn and how they perceived that learning. Most learners preferred practical to theoretical knowledge. Each learner identified the importance of having a

credential.

The PLA process is a way of recognizing and accrediting prior learning toward a credential. Students who prepared the portfolio followed the structure set out by the college. All students who prepared the portfolio relied on the guidance of their instructor. They felt confident that their instructor would provide useful advice for the acceptance of their portfolio by the faculty. Consequently they felt some assurance that they would receive an academic credit for their efforts. Since the students had to identify the learning which occurred in the past as part of preparing a portfolio, many were thinking in terms of life-long learning. They were also learning about their accomplishments while they were writing their portfolios.

Although the portfolio development course requires a lot of work, the students who took the course recognized its value. The portfolio process allowed for reflection which placed a significant impact on prior learning. These learners recognized the importance of prior learning not only in their specific college programs but in the way in which they viewed their learning.

The learners who did not pursue the portfolio process offered a variety of reasons for taking a full college course load. These learners wanted to experience the college programme and the learning associated with each course. Students who took a full course load were not convinced that preparing a portfolio will necessarily earn them a credit. There is also a lot of work associated with the portfolio course. In some instances it is much easier to take a course than to try to create a portfolio with all of its supporting

documentation. These learners did not create and make meaning from their prior learning for specific courses. Their prior leaning was an integral part of the way in which they approached their courses at college.

One of the assumptions of prior learning assessment, is that students should not have to learn material which was previously acquired. In some cases that material may be well into somebody's past and learning that material over again may be beneficial. There is also the argument that it is beneficial to learn material previously acquired particularly if it is necessary to learn new material.

This study showed some of the limitations of Prior learning Assessment. PLA has not received overwhelming support by faculty. This is especially true for portfolio assessment. The challenge examination is still the most popular form of PLA. Faculties' resistance to portfolio assessment can be explained by many factors. Some faculty do not feel qualified to assess portfolios. Since faculty that prepare the challenge examination also teach or are qualified to teach the course it can be reassured that the challenge examination measures the learning outcomes for specific courses. The same cannot be claimed for portfolio assessment. Also, the challenge examination is much quicker to evaluate than a portfolio.

Perhaps the greatest limitation for the successful implementation of prior learning assessment concerns the institution's teaching and assessment roles. Since individuals who apply for prior learning assessment learn the information elsewhere, the institution takes on an assessing function. By recognizing

prior learning, institutions may have to relinquish part of its teaching function to the context where prior learning occurred. For this reason, it is doubtful that institutions will embrace prior learning assessment.

In theory, PLA offers both institutions and learners the opportunity to recognize learning and take part in the process of lifelong learning. The reality is that PLA and portfolio assessment in particular is a way that learners can receive academic credits for their prior learning.

The learners in this study expressed significance in their perception of learning. There were significant stages in their perception of learning:

1. There was a realization that they did learn
2. Learning was not merely experience but a transformation process
3. Each learner realized some strengths in their perceived learning styles
4. Having learned, the learner perceives the need to have their learning accredited
5. The learner perceives that knowledge is important in our society for which learning is required
6. Learning motivates learning

Recommendations for Future Research

The findings of this study suggest a number of questions for both areas of PLA and learning in school and non-school settings. Some of the more important issues for future studies in *prior learning assessment* include the following.

1. A comparative study of delivery methods for PLA, such as distance education and classroom instruction.

The portfolio development course is offered at various colleges through its distance education programme. As in the classroom, students are provided with a manual which assists them in preparing their portfolios. One of the findings which came from this research was that the learners felt that their instructor gave them a direction in completing their portfolio. Perhaps this and other findings could be revealed by exploring the portfolio development course delivered in a classroom setting or through distance education.

2. A longitudinal study comparing PLA students with non-PLA students.

Do students who complete the course have a better understanding for further courses than those who have received a credit through PLA? Although PLA offers many advantages for learners there are those who still question its validity. Perhaps students who receive prior credit through PLA are at a disadvantage when they take other courses in their college programme. A study of this kind may reveal that students who successfully challenged a course through PLA

performed better in the next course than students who took a similar or prerequisite credit course.

3. An exploratory case analysis of a portfolio development course at an industrial setting.

Many colleges are now going into industry to instruct employees on preparing portfolios. There are agreements between various industries and colleges where the latter is responsible for teaching the portfolio development course. The findings from this case study could be compared to a portfolio development course in a school setting.

4. A survey of instruments and assessing techniques used by faculty for evaluating portfolios.

Willingham (1977) identified the need for reliable criteria in PLA programs. Faculty have not overwhelmingly volunteered to evaluate portfolios. One way of encouraging faculty to become involved in the portfolio process is through training. Perhaps if there were reliable instruments to evaluate portfolios, more faculty would become more involved in portfolio assessment.

5. Identifying the barriers to PLA.

There are both institutional and personal barriers to prior learning assessment. The barriers identified in this study such as, inability to fast track programs and resistance to change, could be investigated in another case study or these findings could be used and become part of a questionnaire which could be surveyed

over a larger population.

6. A history of PLA at a selected college or university.

Ontario colleges have actively supported prior learning assessment particularly through establishing the position of a prior learning assessment facilitator at each college. My experiences with these PLA facilitators has been extremely positive. They would probably be willing to be interviewed and provide the appropriate documentation of how the development and implementation of PLA at their particular college.

PLA is also being discussed at the university level. The University of Windsor, for example, offers a PLA component with its Bachelor of Arts degree. There would be an opportunity to write a case history on a selected university describing the design and development of a particular PLA programme.

The following recommendations are suggested for *learning in both school and non-school settings*.

1. How learners from different academic backgrounds, such as students who completed high school and did not attend college, those who went to college right after high school and mature students who graduated from college perceive their nonsponsored learning.

An individual accumulates nonsponsored learning throughout a lifetime. This nonsponsored learning could be identified with a selection of participants that could be asked about their perception of this learning and its relationship to their current employer or

vision of learning.

2. How do learners from non-school environments, such as the home view their learning.

A comparison could be made between individuals who were educated in the home and the institution to which these individuals are applying. How do home schoolers regard the education they receive at home? Is the course content viewed as similar to, or different from, the school setting? These and other questions could be pursued in a study involving perceptions of learning.

3. What is the learners' perception of sponsored learning programs.

Since one of the courses required at community colleges is field placement it would be useful to identify the perceptions of learning acquired through the course. Field placement represents an opportunity to put theory into practice. The assessments from field placements comes from an employer. How do their assessments compare to the learners' assessments in sponsored learning programs?

4. The use of portfolios for learning and assessment at schools or non-school environments.

Portfolios are becoming more abundant in learning and teaching. In the public schools, students are preparing portfolios in career planning. In specific subjects a portfolio forms part of the student's final grade. Since there is presently a volatile job market, individuals will find it necessary to update their resumes

or curriculum vitae. One way of keeping up to date with change is to prepare a portfolio. Such a portfolio could contain both sponsored and non-sponsored learning. The portfolio would serve many functions, one of which would be to have a history of the learning acquired in different contexts. Another function would be placing an importance of "lifelong learning" in the comprehension by the learners of their own learning.

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APPENDICES

APPENDIX A; COVERING LETTER TO FACULTY TEACHING PORTFOLIO DEVELOPMENT COURSE

R. R. 1
Keene, Ontario
K0L 2G0

Dear Faculty Member

I am a graduate student at the Ontario Institute for Studies Education at the University of Toronto and I would like you to assist me in collecting information on the portfolio development course. This information will be collected, tabulated and presented in a doctoral thesis. For your efforts, I will provide you with a copy of the findings. Neither you nor your institution will be identified in the thesis.

After reviewing the literature which had previously investigated the portfolio development process within prior learning assessment, I found no study which dealt with a student's perspective on the portfolio development course. There have been surveys which addressed the use of the challenge and the portfolio process, and there have been case studies describing models of portfolio development but what is needed is a student's perspective of experiential learning. It is in this area which I intend to focus my study.

To get an understanding of student involvement in preparing portfolios I would like to observe the portfolio development course. I will introduce myself to the class at the first session and will sit at the back and take notes. It is my primary intention to observe and gather data which could be later corroborated with interviews. I would be willing to assist you with classroom procedures should you require my help. I would also like the opportunity to interview up to five students in the course. For this purpose I will provide a permission form.

I would like to thank you for participating in my study and hopefully we can all learn something which will be of benefit.

Sincerely

Ken Blinkhorn

APPENDIX B: PERMISSION FORM FOR INTERVIEWS

Thank you for participating in the research on how students make meaning and understanding of their prior learning through the portfolio development process. You will be asked to participate in a short interview and your responses will not be communicated with the teacher. This research is being done by Ken Blinkhorn as a doctoral dissertation at the Ontario Institute for Studies in Education at the University of Toronto.

This interview is voluntary, you have the right to refuse to answer any question and you can stop the interview at any time. You will not be identified in the reporting of the results and the tape will remain with the researcher after the study has been completed.

Having read the above information, I willingly agree to take part in the described interview with Ken Blinkhorn. I give permission for this interview to be taped on audio cassette. I understand that my answers given in the interview will be used as part of the findings of a doctoral thesis on how students make meaning and understanding of their prior learning through the portfolio development process.

Signed: _____

Date: _____

APPENDIX C: LIFE HISTORY PAPERS

Teresa

In May of 1992 I relocated to a town within twenty kilometres of my home. In the summer of that year I travelled to the village of Tiahuac, Mexico to visit a long time pen pal. The trip to Mexico on my own was a big step because I knew little Spanish and hadn't seen my friend in ten years. I met Gale at the airport with no problems and had a great trip. The language barrier was not much of a problem. I knew a little bit of Spanish and Gale knew quite a bit of English. I learned a lot about the Mexican culture, food, customs, language and general way of life. I must admit it was a culture shock. The poverty was like nothing I had ever seen before. On the one hand it is also an amazing, colourful country. The people are very talented and resourceful.

My love for writing short stories has always been within me but I never did anything to share my stories with anyone. In 1993, I enrolled in a creative writing course at a local community college and it was a really good experience; but I have not had the courage to pursue it any further. I write a lot in my spare time. From this course I learned how to express myself better on paper and to take ideas in and use them to the best of my ability.

In 1994, my partner and I bought our first home. Later that year in July, I got my lay-off notice from a Day Nursery. A temporary position came up at a Social Services Department for a Case Aide position. I made the move from a Day Care position to a Case Aide position in September. The change was exciting and challenging. I felt by this point in my career I needed a change so it came at a very good time for me. I went into the new position with an open mind and ready to learn all that I had to, to succeed. It was a more difficult move than I had anticipated at the beginning. The Case Aide position is a very detailed job and takes a very long time to learn. I anticipated I would learn the job in a few weeks but I know now that was impossible. The temporary position was over and now I had two options at this point in my career. One was to go back to my old job and two was to bump into a position at Social Services. My decision was that of bumping into a position. My decision was thought over and discussed at length and I felt this was the best move I could make. From this expertise I have learned many things. I learned very quickly to adapt and keep an open mind to my change in circumstance. I also learned a great deal everyday on the job at Social Services and what exactly Social Services consists of. I also learned quickly what social services provides and how many outside organizations are willing to help.

In December of that year, I was transferred to another sub office as a Case Aide. From May to August of 1996 I commenced a temporary position as a case worker in another office. It was an excellent opportunity. I feel now I am a lot more knowledgeable and confident in my job. I know my case aide job even better now. I learned much more as a Case Worker that I didn't know as a Case Aide. I didn't have much difficulty in the transition from Case Aide to Case Worker. Approximately from January to April we had training on our new computer system called Case Worker Technology (CWT). We took a course on managing change, "Introduction to Case Worker Technology" and actual hands on training. I enjoyed the transition to C.W.T. The computer has definitely changed the way we do our job. A lot less paper and a lot more contact with the computer. We are one of the first municipalities to be introduced to C.W.T.

Also in March of 1996, I took on duties of Treasurer for our union local and got involved with our Strike Committee. My duties were quite involved during our time of negotiations. We were very near a strike, but miraculously we did not strike. What I learned during this time who could help make our strike go smoothly in the community. We were in contact with City Police,

Family Benefits workers, who had just got back to the job after a lengthy strike, and financial consultants. We also were in contact with agencies we deal with on a regular basis informing them of our position. This whole experience was a great learning opportunity.

I am presently still at a county social services as a Case Aide. I am working at completing my S.S.W. (Social Service Work) requirements. I would like to move up to a permanent Case Worker position in the near future.

Diane

The past seventeen years have taken me through many interesting and challenging opportunities with three companies. I am very proud of my learning and achievements. I've learned that setting goals and working towards them takes effort and planning. Sometimes progress is in small steps and sometimes it happens in leaps and bounds. For every hurdle you jump, there is always another fork in the road.

My first job was as a retail sales clerk for a local craft and hobby shop. It was rewarding to help the customers and I felt a great sense of accomplishment when they left smiling. I knew I had done a good job when I began to get repeat customers. I was also responsible for window, aisle and floor displays. Each month I completed a physical inventory. This information would be used to place the orders for the following month. When the owners decided to open a store at a mall I was asked to join them. I gladly accepted and worked there for about a year. I left the retail sector to accept a position in manufacturing with a different company.

I spent the first three months at the different company in training. I was amazed at the amount of detail I was required to absorb. I was in a group of ten people. We had to learn the general operation of the lines and were expected to make routine adjustments to keep the product within specification. Additionally each team member had to develop a career path. To maintain or advance through pay levels each person was responsible for the technical operation of a section of the product line. I eventually chose to work in the area known as millhouse and carton former. To ensure that each person maintained their skills an annual certification process was required. My production assignment taught me the skills needed to work with others as part of a team.

The summer of 1983 brought a new opportunity for me. The local plant was about to start a new department and product line. I considered applying for the start-up team, but changed my mind when I found out it involved four months of travel. However, the leaders of the new department approached me and asked me to reconsider. I eventually accepted a position on the team. We had to travel to the United States and visit a number of plants. While there we were to learn through a mix of on-the-job training and classroom theory. Our first stop was North Carolina. The work weeks were very long. Each of us were matched with an experienced person and we worked shifts along with them and spent a couple of hours in classroom training. The goal was to learn as much as possible because when we returned home we would become the trainers for the other employees.

The month of December was spent in Missouri. Here we continued on-the-job training and more classroom study. I was glad to go home for Christmas and it took a lot of effort to board the airplane in January to return to the final leg of this learning curve. This time we visited Wisconsin. This next three week period was spent with the manufacturer of the original equipment.

The final stop was Cincinnati, Ohio the home of the company's corporate headquarters. The equipment at this location led us to the pre-production phase. The next three weeks the team pulled together to "fine tune" the

production line. When we returned home we had the task of preparing all the training materials we would need to teach new people coming into the department. The training department really helped to lay the ground work and taught us the basics of teaching and training. I learned to prepare lesson plans that taught the material with interactive tools to help with retention.

For the next year I worked on shifts in the production department. A position became available in the material requirements planning department and after a series of interviews I was hired. This felt like my first business adventure. I was responsible for scheduling deliveries of raw materials to meet the production needs working closely with production planers and the product quality lab. Performing weekly stock counts allowed me to keep our inventories to a minimum by adjusting shipments. This job was very satisfying. The team effort that was made each time the production schedule needed to be changed was incredible. It became a personal challenge to do everything possible to meet each change that was requested. This job also gave me insight into a whole other area of the business. My routines were limited, externally, to the Corporate Buyers, the Suppliers and the Product Department. The production planning part of the business dealt with Sales, Marketing, and Distribution. Together our group made a great team and we had a lot of fun doing our job. After a couple of years though, I began to need more. The outside world looked more interesting than going back to shift work in production. Once each month I travelled to Toronto for a business team meeting. Watching all the players in this meeting, helped me to realize I wanted more challenges in the business area.

In 1987 my Department Manager asked me to join a team of people to assess how our department operated. The goal of the Plant Business Team was to redesign the work system to allow more flexibility and greater learning challenges. A consultant was hired to lead the group through what turned out to be weeks of gruelling interviews, analysis and brainstorming sessions. The consultant, helped us develop questionnaires, summarize and interpret the data. This process helped me learn that I had a great deal of knowledge to gain. I developed listening and communication skills, oral presentation and team work skills. Upon completion of this project we gained approval from the plant business committee to go ahead. Communicating our findings to the other employees was yet another learning experience for me. Upon completion of this assignment I returned to my previous position as material requirements planner.

In 1989 I learned that an American based tire manufacturer was building a state of the art facility nearby. A few months passed and one evening I saw the newspaper advertisement for a Receiving Manager at Supertire. I submitted my resume. To my surprise I received a phone call to attend the first of many interviews. In December of 1989 I was offered a job. I accepted because I believed that my future at the present manufacturer would eventually lead me back to shift work. I well remember 1990 as the year of pushing my limits of tolerance and handling stress. I had to learn a new business culture and job. The rubber industry was quite different from the paper industry in terms of cleanliness, size and type of equipment and noise levels. The plant culture is much more aggressive at Supertire. The plant is populated mostly by men, and dominated by American managers. My working relationship differed too. At the previous manufacturer I mainly dealt with factory level people and reported to management. At Supertire I was in a management position and soon learned a whole new world of work ethics and behaviours. This difference helped me become more positive. My job allowed me to see the big picture - the whole process. Supertire - local has a process of benchmarking its production against all other Supertire locations. Daily production, waste and safety figures are tracked and compared. Nearly 85% of the raw materials are shipped from locations in the United States so I quickly learned about the transportation industry. Ordering and inventorying the raw materials consumed a great deal of my time. As production increased I hired a person to control

and monitor this aspect of the business. This allowed me more time to manage the receiving department. Before long I supervised a team of eight receiving truckers unloading and delivering the raw materials, and two material control technicians, one for raw materials and one for engineering stores. I quickly realized that I got very little satisfaction from the responsibilities of a manager. I preferred to be the worker because I could work through the details and follow projects to completion.

Early in 1991 the Plant Manager asked if I would take a short-term assignment as Communications Specialist. This position taught me a renewed passion for the word 'time'. Communications within the plant had to be timely. With a plant 5/8 of a mile in length and seven business centres the task of posting information throughout was both physically and mentally demanding. I was the liaison between the news media and the Plant Manager. I also planned and organized two plant-wide celebrations for 550 people. This task makes those Saturday night dinner parties seem like a breeze.

From Communication Specialist I moved to the Warehouse. Supertire designed a new computer system to track and manage FIFO (first in first out), and allowed for product traceability and segregation. I focused on integrating the daily routine into this new system. I regularly posted notices at work stations, left memos in team meeting files and came in early and stayed late to attend many meetings. I developed training packages for three levels of operation. The first was for the people who received the product and for which production credit was taken. The second level was for the people who loaded the trucks. The third package involved supporting the warehouse Coordinator and Manager functions. Our system would receive the orders from the Customer via our Corporate office. We linked the order with the product available and created bills of lading and advise of shipment notification. Our local plant was the pilot site for this system. I also hosted study groups from other Supertire locations.

I worked as the Warehouse Coordinator for a four month period. This assignment gave me the opportunity to work "hands on" with the new system. As a team we all strived for continuous improvements. One tool that really helped with the audit process was leaning how to develop a query - writing over a logical file and selecting and sorting data within that file. I was able to develop reports to enhance my job and create self audits.

Upon successful position of the warehouse system I moved to the accounting department where I worked on the accounts payable desk for two months. This position gave me a well-rounded view of the process from receiving through consumption, to closure by payment and allocating the charges.

Once again I found myself in another short-term assignment. Our finance policy dictated a complete physical inventory to be done every two years on spare parts in engineering stores. To accomplish this task, I began by complete communication of my time-line. Each day I generated reports for specific sections of a storeroom and set out counting, checking and verifying quantities, part numbers and physical bin locations. Each day ended by updating the inventory reports and verifying that all data was successfully received by the computer system. As part of giving feedback to the business centres I also tracked the number of adjustments made in each store area. Upon completion of all four stores I compiled a summary which passed the financial audit conducted 18 months later.

At the end of 1994, I obtained a permanent position as a Buyer. I settled in for yet another learning curve. It seemed appropriate that I now purchase the parts that in past jobs I consumed, received, paid for and inventoried! The job involves preparing source documents, ordering, typing,

placing follow up calls, filing, quoting, negotiating, fielding sales calls, and reading new literature and then sharing the information. The role of a Buyer requires ongoing contact with suppliers. Customs, transportation companies, corporate offices and all the internal departments such as receiving, accounting. production, maintenance and the end user.

I also had a position as ISO (International Standards Organization) Auditor and am a member of the plant steering committee. I participate in 6 audits per year in three sections of our business. ISO is a global quality standard. The basic premise involves documenting how you perform tasks and functions to ensure consistency in product quality. ISO has taught me to look at the "whole" process. When I begin an audit, I start with three questions: What is the goal? What are the procedures to support the goal? May I see them to audit them? I have learned to problem solve much better by looking at root cause instead of the barriers or solutions. I'm learning to analyze for effectiveness, and to be proactive rather than reactive. Continuous improvement is a major goal of this process.

I constantly find myself teaching others about teamwork, setting goals and the importance of following correct safety procedures. I live this culture every day at work. It makes sense and it's comfortable to me. I plan to send my children into the world with the same desire to learn and to experience life that I possess. The skills and knowledge which I have gained in the workplace have helped me find both personal and professional direction. I enjoy learning and I will face new tasks with interest and enthusiasm. One of my goals is to formalize my learning through the Prior Learning Assessment process and to receive a college diploma in business administration.

Brad

In 1981 my father died of a heart attack. I was 16 years old and not really sure at the time of the complications this would present in my life. My father was a strict disciplinarian but he was respectful of others. I often recall some of the unpopular decisions he made when disciplining my 4 brothers and I. Little did I know how valuable these lessons would be later in life.

About six months after my father died my mother developed cancer and her health slowly deteriorated. She died I year later. I was in grade 12 at the time and it took a few years before I realized the importance of the values my parents had taught me like accepting responsibility for oneself and working hard. After my mother's death I was faced with dealing with the roller coaster of life on my own. I turned to my future wife Paula for support. She has been very supportive of me from the time of my mother's death to the present. Together we have managed to grow and meet the various challenges life has presented us with.

When I finished grade 12 in 1984 I was interested in a career in radio. I worked with a local station as part of the co-op education program at secondary school during grade 12. Every afternoon I went to the station and assisted with the production of commercials and other programs. When I graduated from high school I was offered a Sunday disc jockey shift at the radio station every week for 2 hours. I was also a guest DJ on a radio station in Toronto for one hour. It was exciting to think that my voice was reaching 500,000 people at once. I was well on my way to becoming a radio DJ! I enrolled in the local college Radio Broadcasting Program in the fall of 1984. At the end of the first semester I began to have second thoughts about my choice of careers. I didn't like country music and questioned whether I would be happy working at the local radio station. I was also concerned that I might not be able to come up with sufficient money to finish college. I was struggling to make ends meet.

It was at that point that I quit school, broke up with my girl friend and headed west with a friend. We eventually made our way to Vancouver Island. We hitchhiked up and down the Island checking out job opportunities. We were not very successful and after a month had passed we were running out of money. I missed my girlfriend and I was also homesick.

We headed back to Toronto and now when I think about that era in my life I'm amazed at some of the things I did. I finally decided I could not survive with this directionless train of thought, and realized it was time to get a steady job and get on with my life. I began to seriously look for work in my home area.

In 1986 I participated in the Hunters Safety course, and received my Hunter's License. Although I don't hunt much I enjoy the solitude that comes with being in the woods.

My parents' estate was settled in 1986 and I needed a place to live. Paula and I decided to buy a mobile home. I quickly realized that home ownership was better than renting. Jobs were not very plentiful at that time but I eventually found work with a crane manufacturer nearby initially as a Labourer, and later as a Hand Sprayer. They both were physically demanding dirty jobs but luckily I was young and strong and able to handle them. However, I soon began to dislike that type of job and started looking for something else.

In 1987 I was hired by another local manufacturing company as a production operator. I was released after 2.5 months. The person that hired me blamed me for his error in judgment on a production issue and I was released. Life was getting harder by the moment. However I pushed on with the support of Paula. Later that year I was hired by a local cable manufacturing company as an Extruder Operator. This job entailed operating a machine that applies the insulation of various types of electrical and communications cable. Paula and I planned to get married and start a family.

In 1988 my brothers and I travelled to Moncton, New Brunswick for my grandmother's funeral. She was a great person and we really miss her. Although we were saddened by her death, the time which I spent with my brothers was enjoyable. I don't see as much of my family as I would like to. We seem to lose touch with our loved ones in this fast-paced world of the 1990's.

I served as the Education Office representing the Canadian Auto Workers (CAW) Union while at the cable company. I organized union meetings and attended C.A.W. sponsored conferences. The conference topics included Dealing with Harassment, Literacy Programs, Union Structure, W.H.M.I.S. and Basic Education for Skills.

I learned a lot about unions and a wide variety of other things during that time. Many unions offer useful programs for their members but sometimes it's difficult for workers to use them to their advantage. Some people just pay the dues and constantly complain, instead of getting involved and trying to make changes.

In 1989, largely because of hockey injuries, I had an operation on my knee. It was serious enough that I would be off work for 6 months. About a month after my surgery, the manager of the cable company phoned and asked me if I wanted to help out in sales while I recovered. I was happy to do so and this job helped to positively change my career direction. I began to acquire skills in office administration and the fundamentals of business. I enjoyed the challenges of the job and quickly decided I would like to do it on a permanent bases.

Paula and I travelled to the Dominican Republic on a holiday during the

last stages of my recovery. This was the first time either one of us had ever been in the tropics. It sure opened my eyes to the poverty and slow pace of economic development of third world countries. I felt lucky to have what I have and I quickly realized that I had ample opportunities in life compared to many of these people.

In 1990 I was offered a full-time job as Customer Service/Sales Representative at the cable company and I was responsible for satisfying all of the needs of the customer base. This job involved corresponding with customers, monitoring orders through the production process, costing, preparing shipping documents and coordinating orders with the production department. I began to excel at my new job and thoroughly enjoyed the new tasks and challenges it presented. I also decided to enroll in a marketing course at night school to help me make better decisions and to be more focused on the job.

In 1991 I took an Introduction to Lotus course at the local college. I knew the importance of computers in the business world and I wanted to be able to use them properly. I also took an Effective Communications course at the college. I quickly realized that interpersonal communications were also very important to the world of business. Unfortunately in 1991 the cable company was bought by an American firm and down-sizing was the order of the day. I was one of 8 people laid off in the management area. What do I do now? I enjoyed my work at the cable company and I wasn't sure what to pursue next. My limited formal education and lack of job experience certainly did not help me. I decided to make sure I completed the communications course. The months which followed were filled with indecision and anxiety.

In 1992 I was hired by Supertire. I felt fortunate because I had a new job that paid well with an established company. I realized that working for such a large company I would probably need more formal education if I wanted to advance. All the things I learned from my parents began to take on a new perspective. I decided to work as hard as I could, to continue learning and establish myself in a career I would enjoy. I believe in continuous improvement in all aspects of life and this is one of the values strongly promoted at Supertire. Over the year I received various types of training at Supertire. This included things like W.H.I.M.I.S. and fork truck training. I also started contributing to the Cancer Society through payroll deduction. I believe in helping others if you can.

My life seemed to be on track and we began to start thinking about having a family. I had drifted apart from my own family and I missed the togetherness. I was 27 years old and not married. Most of my friends already had children starting school. Finally in 1993 Paula and I were married. It was the most enjoyable event of my life. We honeymooned in Jamaica.

I actively participated in some of the volunteer committees at Supertire to gain more knowledge about our range of products. The Committees were the Green Tire Review Committee, the Cured Tire Review Committee (monitored and repaired scrap green and cured tires, trained fellow workers) and the Component Review Committee (reviewed scrapped stock, disposed of stock, provided feedback to appropriate managers and liaised between departments). This experience should help prepare me for an office position. Whenever an internal job bid was posted I usually applied. My philosophy is that the more I know about jobs in the community the better for me to remain employed.

In 1994 we purchased our first home. After 8 years in the mobile home it was nice to have more space in which to move around. We rented our mobile home and soon became acquainted with the trials and tribulations of being a landlord. It is a little more work than I originally expected but so far the financial payback has been exceptional.

At Supertire I was asked to fill in for the G Systems Specialist/Waste Manager while she was away. My duties were to monitor green tire review, track and record scrap and friction waste data, communicate data to fellow workers and other managers, and act as liaison between departments. As a result of the knowledge I have gained on the job, a co-worker and I have invented an apparatus named the "Air Raider" for repairing tires. This tool reduced the number of scrap tires with a defect called "liner paella" (the air permeable lining of the tire separates from the other components) by 50% and decreased repair time by approximately 30%.

In 1995 the same problem occurred in the Quebec plant so we were asked to go there and share the benefits of this tool. We trained their employees and supplied them with some "Air Raiders".

I began to get anxious to start a business of my own. My friend Greg mentioned the need for Teflon coatings by a large variety of industries. This sounded unique and the uses included a wide spectrum of applications ranging from auto parts to waffle plates. So we started to research the Teflon business. We received some prices on equipment and did some reading on the topic. This seemed to have unlimited potential as a business venture. We attended a small business seminar hosted by some local business promotion groups and talked later with a business consultant. We visited a large Teflon coating company in Toronto. We talked with the owner about the possibilities of us entering this industry. We discovered there were some unexpected expenses that arise on occasion (technological advances, new products) that would exceed our financial resources. We abandoned this idea and turned our attention to another venture.

Our next idea was a shoe circulation system which with every step pumps fresh air into your shoe. It looked really promising. We met with a patent lawyer and he too liked the idea. We searched the United States patent office to see if this was an original idea. The search was costly but you rarely succeed at a business without some risk. Patents are usually not granted if you can combine a couple of patents to roughly match the new idea. A very "rough" match that had just been granted 3 months earlier was our demise! Missed it by a hair - oh well!

In early 1996, both my uncle and a close friend passed away from cancer and once again I struggled to understand life's twists and turns.

I volunteered to chair a charity golf tournament in support of the local food bank. It was quite a bit of work organizing, hosting and managing the event but it was for a worthwhile cause and I learned the organizational skills that are required to orchestrate such an event.

I had been reading the business sections of various newspapers trying to learn more about business in general and I decided to play the stock market and I purchased 2000 shares.

This was exciting stuff and I bought in for $0.45 per share. The last time I looked it was up to $0.82 per share. Not bad for a beginner.

In 1996 my son Tyler was born. He has changed our lives. Tyler is the first of two children I hope. I was present for his birth and cut the umbilical cord. I was amazed at the process. To witness how life begins is truly a miraculous experience.

This year I also lost a special friend of the family who was like a father to me. He died of complications arising from a stroke. I will miss him a great deal.

I still need something to satisfy my entrepreneurial spirit and my friend Greg's father offered to give us an invention of his. It is a Casino rules Blackjack strategy wheel that identifies the best circumstances for being successful at the game. This is a relatively small item that does not require lots of money for us to develop. It has been given limited distribution in the United States and none in Canada. I figured with all the casinos opening up in Ontario and other provinces this could be a viable product. Attitudes towards casinos are changing and they seem to be gaining both in acceptance and in popularity. I know we will not become rich but the potential for some extra revenue exists. Greg is a plumber so the business management aspect has been left to me. I purchased a Pentium 120 Mhz computer, wrote a business plan and registered the business under the name "Light Fun".

I started creating business cards, letterhead and files for our business with computer programs such as Windows '95, Microsoft Word and Works, and Corel Printhouse. I have researched various wholesalers and started a blanket marketing program of all cities in Ontario with casinos. The Windsor Casino annually attracts roughly 5 million people. I plan to start there, Vancouver is next on the list and then south to the United States.

The internet seemed like good value for the advertising dollar so I researched it and eventually created a homepage. I have recently travelled to Orillia to visit the newest casino to test our product and make some possible contacts. The product was well accepted and even the pit boss wanted to buy one. I went to several local stores in Orillia to determine who their suppliers were. I figured that these stores could be good distribution outlets.

I have tried to improve my position at Supertire by applying for new jobs. I have not been successful and I realize that I need to get more education.

I learned about Prior Learning Assessment and decided to enroll in the Portfolio Development course with hope that it will help me identify a clearer career path, get some post-secondary credits and set some realistic goals. Eventually I want to be self-employed in a successful business.

Norman

I have arrived at many crossroads throughout my life's journey; from the death of my mother, when I was only 18 months old; to my decision to travel; to marriage and career choices. Some of these transition points brought about changes which profoundly affected the direction of my life and experience.

During the earlier stages, the response to my life's decision diamond would often translate to an action which led to either travelling to a different country or changing place of employment and occupation. In recent years, I find that the questions at my crossroads are no longer, "which way do I turn, but rather, how do I initiate action to engage those areas which I am interested in". Areas such as community involvement, the science of optics and the absolutes of our system of being.

I often reflect on situations which have challenged me to stop and take note of our system of things; situations such as: total isolation from the rest of the world, due to radio blackout for one week, while posted on a remote island in the higher Arctic; my work with electromagnetic radiation equipment for navigational aid; the dynamics of human behaviour observed, both from a supervisory capacity and from a racial minority viewpoint.

I am presently involved in various community organizations, and I do a

fair amount of knowledge update in the areas of philosophical concepts and physics, but I am once again at a crossroads, and the question at this time seems to be, "when am I going to do something more concrete about those things which I am interested in". I want to enhance/formalize my knowledge and experience in those areas of interest, and I feel that affiliation with a post secondary institution will assist in achieving this goal.

While my primary objective is to enhance/formalize my knowledge in areas of interest, I would also like to receive academic credit for prior learning that took place outside a formal academic setting. For that reason, I feel that it is necessary to prepare a portfolio for prior learning assessment.

I plan to prepare my portfolio in a format consistent with the requirements laid out by a University.

Leanne

I am the third girl in a family of 5 girls and 1 boy. Both of my parents worked as far back as I can remember. My father is a Class A Mechanic and my mother started out in factory work and worked her way up to Supervisor of customer account collections at a major department store and a bank. They both continued their education through night school to help them attain these goals. I worked every summer from the time I was thirteen in a variety of jobs. I worked as a surveyor (going door-to-door asking questions), at a canning factory, picking cherries and in 1973, at the end of grade eleven, I worked at a department store overseeing the music department. I also helped a Ladies Guild at various functions (doing dishes, serving, etc.)

I had an on-going relationship with the same person since I was fourteen. The relationship was going down hill and I was about to end it when I became pregnant at the age of 17. I left home, left school and moved to Toronto with my boyfriend. I got a job at the downtown Eaton's store and worked in notions (sewing accessories, odds & ends) and gift wrapping.

In the spring of '74, I was married with my son born. We decided to move back home to be closer to our families. I attempted to return to school, but baby sitters were expensive and hard to find so I never continued with my formal schooling but I did continue to learn a great deal. We moved back to Toronto in 1976 as this is where my husband's work took him. My younger sister lived with us while we were here and I remained at home to look after my son.

In 1977, we moved back home and in 1978, my second child, a girl was born. My children were my life as my husband drove for a trucking firm to and from the west coast and was not home very often. Our marriage was becoming strained. His job and his heavy drinking were having an increasingly negative effect on our relationship.

In 1980, we built a new home. We hired a contractor to do the shell and we finished the rest ourselves. I looked after our budget, hammered a few nails, painted and trimmed. My son was in school and I had the opportunity to put my daughter in daycare so I looked for work and also took a correspondence course from the Ministry of Education in English. The course involved a lot of essay writing and analyzing speeches performed by well known figures in Canadian politics.

I always wondered about sending my daughter to daycare because I was home with my son until he reached school age. I sometimes felt I should have done the same for my daughter. Because of these feelings and the stresses in my marriage I was unfortunately unable to complete the English course which I really enjoyed. I received between 75% and 85% on the 14 assignments which I did complete.

In 1980, I learned of the Ontario Career Action Program through a local college. Through this program, I had the opportunity to receive twelve weeks of practical training as a Secretary/Receptionist at a local wood craft business. Working here, I rediscovered my work and social skills while at the same time acquiring many new skills and knowledge pertaining to small business; bookkeeping, filing, organizational skills, human relations and customer service. More importantly I started to regain confidence in myself. I enjoyed being a mother but it was also nice to know that people in the business world recognized my professional skills and knowledge. Unfortunately the business was faltering and at the end of the program I was not offered a job.

As a result of this experience, I learned that many smaller customers are just as important, if not more important than one large customer. The old saying, "don't put all your eggs in one basket" was certainly true in this situation.

At this time in my life, I realized my marriage was not likely going to be long-term. I decided I had to find a decent job, for a source of income but for my own peace of mind. I had to begin to build a future for myself and my children.

I went to our local manpower office and spoke with a counsellor about employment opportunities. Although I wasn't aware of it at the time, this was the beginning of a new phase in my life. I told him I was interested in office work and he suggested a Data Processing Course. I had no idea what this was but I figured he was the expert so I enrolled in the Business and Commerce program at a local college in 1981. The course was excellent. It consisted of daily classes for 10 to 12 weeks and as a result of this experience I became very interested in computers and the software that was being developed. I finished successfully with a 95% average.

In November of 1981 I completed the data processing course with new found confidence and began looking for full-time employment. A secretarial position came up at our local elementary school. I got the job and started in January of 1982.

I discovered on my first day at the school that the computer system was completely different from my previous experience and training. Determined to succeed I had to learn Scriptist, Superscriptist and Viscalc on a Radio Shack Tandy 1000 computer. I was soon put to ease partly because the principal and other staff were learning it for the first time as well. A training manual was the main source of assistance but we had excellent support from the local Radio Shack representative.

My responsibility was to look after student records (Ontario School Records, Transfer and Admission records, Class lists, Nominal Role), personnel files and special education files. I typed all school correspondence, monthly reports (paysheet, staff meeting minutes, special education reporting), and processed the school accounts (requisitioning and purchasing, account verification, recording transactions).

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In 1984-85 the Ministry of Citizenship and Culture sponsored the Computers and Children Project. The principal got involved. The purpose was to provide all children of the Province of Ontario with access to microcomputer technology.

As I was one of the more proficient computer users and one of the more experienced staff members, I was recommended by the principal for this position. I had full support and high recommendations from the staff as they were confident that this position would allow me to further grow and develop. They knew they could count on me for support and help. The principal also recommended me at this time and said he based it on his experience with my daily work habits, my positive attitude and my abilities to perform a variety of tasks effectively. I accepted the position of co-ordinator and continued my regular duties as well.

The co-ordinator position involved the exploration of Logo (Computer Language)strategic planning and programme development, software familiarization and implementation planning, software evaluation and centre management and practices. As the co-ordinator, I arranged the program for the official opening of the computer centre and gave the opening speech to a variety of local politicians, parents and interested community members.

While at the school, I also performed secretarial duties for a steering committee that was attempting to start a new training institute. The primary mission was to enhance the opportunities for First Nations people to gain greater control over their future in the social, political, cultural and economic areas by providing high quality learning opportunities. While serving on this committee I was exposed to government funding requirements (and the bureaucracy and "red-tape" that accompanies it), correspondence, meetings and programs.

When the Institute got off the ground in the spring of '85, I accepted the position as Service and Community Program Co-ordinator. Once again I was recommended by the principal of the school, who was now appointed President of the institute. I also assisted in the staffing and training of three data entry clerks who were hired to work at the Institute. These individuals have stayed with the institute have become friends and are now in senior positions. I also attended Board of Directors meetings for the Institute and took minutes. This experience taught me how to listen carefully and how important decisions are made that effect people and often cost hundreds of thousands of dollars.

In 1986, I took steps to end my marriage. I had tried everything to make it work but to no avail. My husband would not attend counselling since he thought everything was fine. I was scared to go on my own but I continued to work hard as I had two children who were depending on me and I was determined to succeed.

I was asked by one of the vice presidents of the institute to learn Venture, desktop publishing software because the institute was approached by different organizations to do contract work using this software. At the time I had no idea what it was but I am always looking for a new challenge so I agreed to learn the required skills. As this was a fairly new field there wasn't any formal training offered locally. So I took the manual and plugged in. I will admit that it was difficult and I didn't have the peer knowledge and support that I had in the past but it was necessary for me to master it as soon as possible. Through trial and error and lots of practice I became confident enough to use my new-found skills. I started with in-house material and I was soon designing classroom curriculum manuals for the Department of Indian Affairs, Toronto, Assembly of First Nations in Ottawa and the Roman Catholic Separate School Board, locally. With my interest and the interest in Venture growing, I soon started teaching and supporting this software. Teaching gave me the opportunity to help others build their confidence while recognizing their own potential. It also gave me the opportunity to use and share the new skills and knowledge which I was acquiring.

During this time, I remarried. My new husband and I initially developed a productive working relationship over a period of three years that eventually led to a personal friendship. He encourages me and always supports me in any endeavour to improve myself. With his love and guidance, I have learned to share and trust in myself and others.

In 1989, the institute purchased a printing department in order to generate revenue and employment opportunities for members of our native community. I transferred there working as an assistant to the Manager and as graphic designer. I learned about various types of paper, colour separations and the dockets, purchasing, filing, bindery and serving walk-in customers. I also acted in a liaison capacity between printing and head-office and learned the importance of paying attention to detail and meeting deadlines.

The company restructured in 1991 and I was transferred back to head office as the Community Program Co-ordinator. I trained an assistant and began to get involved in other areas of the community. I continued to support the staff in printing not only technically but also as a friend and colleague.

We started a newsletter in 1992 which was aimed at the institute and its subsidiaries (approximately 80 people) and I continue to layout and design it once a month. I also work as a member of the PLA planning committee which hosts a conference every year. As a member of this committee I have realized the importance of assisting adults to gain access to educational services and in recognizing and honouring the important learning which they accomplish outside of school.

I belong to the Human Resources Committee whose mandate is to increase the overall effectiveness of the institute and the individual competence of its employees in respect to professional and career development. Also, I am a member of our Educational Council Services Committee which aims to provide co-ordination of, and encourage research and development for the present and future educational programs of the institute and its subsidiaries.

I have been fortunate to be able to take advantage of the many opportunities that have existed for me to learn and grow. I believe everyone would have a similar chance. Therefore in my work and personal experiences I try to bestow self-confidence in other people and in this process I believe I have become a better communicator, facilitator and more competent and confident personally and professionally.

There was a time when I would say I "can't" do that or I'd say I am "just a mother" or "just a secretary". Now I don't believe we are "just" anything. With the support of my friends and colleagues, I find I say "can't" less often. Instead I will try almost anything new and am not embarrassed to ask for assistance. I used to think that by asking people for help people would think that I was stupid. But I know now that by asking for assistance I am really asking for someone else's expertise so that **I can learn**, which in turn allows me to grow even more and be more effective in my personal and work life.

Tony

My childhood was spent at the family farm where hard work was a symbol of your worth. My father held down three jobs at all times. He was tireless. My 4 brothers and sister and my mother all contributed to sustain our existence. We were not rich, but we had lots to eat and thoroughly enjoyed each others company. Our first opportunity to make some pocket money was to raise a flock of chickens. We cared for calves and cows and had our responsibilities on the farm to supplement our studies at school.

I attended a two room school. I contended yearly for top honours in my class with a neighbour. We swapped the honour year by year. When I started to high school, I was able to maintain high marks until about the middle of grade 10. That was 1967. My cousin, the very best friend I had, lived in Detroit and was facing the draft to an "unjust" war. I didn't know at the time how unjust all wars were but fought the "establishment" and of course fell out of favour with the principal and teachers at school. My cousin was drafted, spent 18 months in Viet Nam and came back a very different person. I did not recognize him. The war left him a broken man at nineteen.

I got my head turned in a more profitable direction at that point. I had squeaked through high school at a Secondary and a Teachers College. I got my first job away from the farm washing dishes. I did not enjoy the work so I started to help the cook at the same time. In about a month I became the cook. It seemed to me that cooking pies and turkeys and spaghetti was more challenging than cooking hot dogs so I started to prepare and bake those items before the head cook got to work. In about three I was the head cook. Hey! There's a pattern here.

There is not much money in restaurant work. Construction was where the big money was to be made. I took a job as a labourer for two bucks an hour. The carpenters were making more than that so it wasn't long before I was cutting and hammering instead of shovelling. Sure enough I got a raise - ten cents. Only this time things were different, this was a 4 person company and you don't get promoted just because you pitch in. To add insult to injury, winter came along and I was laid off! Oh well, back to the farm.

Unemployment was really not fun at all. I went to Manpower as it was called then to look for a job. It seemed that I was adept at carpenter work. I applied for an apprenticeship. Things were slow. On one regular trip to Manpower, there were a number of people in the office all talking excitedly and holding sheets of paper giving them appointments for job interviews. I asked my counsellor what was going on. He said that I would not be interested. I went to another counsellor and asked him. He said that I should go back to my own counsellor. I told him that I wanted a job and needed to talk to the Manager. He gave me an interview sheet on the sly to go to a government office of all places. I won the job. They hired me for seven weeks. That was almost 22 years ago. I guess the paper work has never caught up.

I worked at sorting flimsy copies of Record of Employment. The job was about to wind up when I saw an opportunity in the Post Audit section. That job was to last another 3 to four weeks. After that, my choices were - keep the level of pay and go to another job or take a cut in pay, do shift work and go to a permanent job. I took the permanent job. It was in document control, fixing errors and rejects from the computer system. I quit smoking. I guess I was a little more secure. While doing that job, I would often help with paper handling machinery such as decollators and bursters. Guess what! An opportunity came up in Unit Record and because I had shown mechanical aptitude I got the job.

In three months, just as I mastered elementary wiring, a job came up in the computer room. Two people from Unit Record had failed to work out. Computers sparked my interest and because I had asked so many questions about them I got a chance.

It was 1972. Those early beasts were a sight to see. We had 2 tape drives, each with 2 horizontal tape transports. They hardly ever worked. There were two drum printers each capable of about 200 lines per minute. They hardly ever worked. There was a 4 megahertz central processor with 180 K bytes of core, and 4 megabytes of disk storage. We had three kinds of restart we could do - halt load, warm start and cold start. A halt load was done with

panel control buttons. A cold start was a load of machine language from cards. You had to select the card reader with switches on the console so the processor would know where to read the cards from. If it was not turned on and ready to go, the process had to be restarted from the beginning. Each one of us knew the order of the cold start deck of cards by heart. Each peripheral device was assigned to an I/O channel by the cards. Warm starts were less of a chore. You didn't have to select the card reader with the switches. No boot track on those disk drives. Oh, there were 2 card punches. They hardly ever worked. We were able to get the warrants out though. We ran a batch system with volumes of about 80,000 cards a day. The master files were on tape. We read the cards to tape, sorted them in the same order as the master records, updated the master records, produced warrant records and new punch cards for claimants to return in two weeks.

We had a back-up site in Toronto where we spent a good deal of our time. We had 10 or twelve operators for the early machines and most of us worked 16 hours a day. Often we would head off to Toronto to do a batch run there after our regular shift. We rarely got a weekend off either. The record for one continuous shift without sleep was 36 hours. We were in complete charge of the whole System. One director commented that it was more important to be friends with the computer operators than it was to be friends with the Director General. Every operator knew the Head Office project managers and their home phone numbers to call whenever there was an emergency. There were lots of emergencies on those early machines. The camaraderie was unbelievable. There was intense competition to get the most work through the machine without a breakdown. We installed a second computer, upgraded our peripheral equipment and life began to settle down. We still had the absolute respect of all management and were treated as if we were wizards or something.

I was successful in a competition for senior operator. We had to look at managing computer operations instead of flying by the seat of your pants. We identified training we required to be more effective at our jobs. We obtained system manuals from the US Airforce who had the same model of computer. I read the books from cover to cover. We all lived and breathed computers. We talked about how we would shave a few seconds off jobs by setting and resetting system options and priorities. We had discussions with NHQ programmers about how their programs were running and how we thought they could be improved. Many of these suggestions were implemented. The supervisors took programming courses at a community college. We never talked about anything else.

In 1973 I developed a training course for junior operators. The course even had modules on binary arithmetic and fetch and executive cycles of the computer. The meanings of special locations in memory were explained. All the hardware components ere discussed, specifying the channel location and function of each component. Disk maintenance was an essential activity. We often had to remove one program from disk in order to load and run another one.

In 1974 we upgraded our system again. This time we added a real powerhouse! 8 Megahertz and 640 K of memory. We installed a bank of disk drives that gave us 20 megabytes - weighed about 2 tons. A guru from Japan figured out how to put our largest program all into memory at the same time - eliminating swapping overlays between disk and memory. Things were really speeding up.

Management decided we needed a scheduler because there were close to 600 different programs to run and multi-tasking was now possible. There were no performance measurement tools at that time although the computer logs were a good source of information concerning processor, I/O and peripheral utilization.

In early 1975 operations was down to a normal work week. We started to

look outward a bit more. I married the girl next door. She was very artistic so I guess opposites do attract. We bought our first house about 25 miles from where I worked. There was a little lake down the hill and beautiful but rugged surroundings. My wife's parents were persistent and welcome visitors. I set up a workshop with woodworking and welding equipment. I took welding and woodworking courses at a community college. I cut and delivered firewood to make some extra cash.

In 1976 I won a competition to be the computer room supervisor. We were now running dual mainframes with 10 tape drives, 60 Megabytes of disk, high speed printers, reliable card punches and crossover channels. We sometimes processed over 100,000 warrants a night. The shift supervisor was the management representative from 5 p.m. to 8:30 a.m. We had instituted procedures for restarting jobs, taking breakouts or restart pints in long jobs and written procedures for every phase of the operation. I developed contingency procedures for a move to a backup site in the event of a disaster. We tested this plan and found it to be dysfunctional. Appropriation updates were made.

In 1977 my daughter was born. She was very clever and special. Still is. Driving that distance was costly so I helped a friend build a house to make some extra money. Money was still very tight though. In 1978 my first son was born. He was a very warm and huggable child. We had to remodel the house as it was only two bedrooms. My daughter would keep the baby awake sometimes. Shift work was very hard on the whole family. Supervisors and operators were given very technical training for computer operations. Operating system overlays, application program interfaces and memory utilization for the stack, the heap, code segment and data segment were the main topics. We also discussed storage of information in random and sequential files on disk and sequential tape files. This information was useful in multitasking. We had a system of priorities to run jobs, machine priorities when jobs were active and timeslicing options to obtain maximum throughput. We hired more operators and expanded our services to include financial systems.

In 1979 my second son was born. My mother-in-law died two months earlier. We sold our house and moved in with my father-in-law while building a new house. This was a particularly stressful time for us all. The house was really too small for two families. We finally built a room in the basement of the new house and moved in. We had two beds, two cribs and a cot in a room about 14 by 20 feet. My wife cooked on a wood stove, heated water and minded those three babies until Christmas when we had the house complete enough to move upstairs. I think it was about this time I bought a Vic 20 computer. It was a great little machine with 8 KB of ram and a tape recorder for storing and retrieving files. I put together the first computerized presentation at our office on that machine. It was a basic program that displayed screens of text in a variety of colours. My boss loved it. Later he bought the machine for his son. I won a competition to be Chief EDP Security the same year. The man passed away recently and is sadly missed. He was a great guy.

We were moving into the world of on-line real-time data bases by 1980. Two large sectors of the government merged and I was seconded to National headquarters to supervise the new environment. I had courses in Workflow language - a compilable job control language with most of the features of Algol, network control and management and database management in a real time environment. We serviced 1500 users, all in Toronto from that system. A second system was used exclusively for Montreal and I ended up working on both. I learned a modicum of French at that time and later took French dialogue courses at Loyalist.

In 1981 we needed to convert a large portion of our claims from Manual to Computer pay. I was chosen to supervise manual Pay for this conversion. At the same time we prepared to move the real time system from NHQ closer to home. I developed the project to accomplish the move. There were timelines

required, operator training plans, software training plans, computer room layout requirements and thousands of other details to switch sites. The switch had to be done in a weekend.

In 1982 we continued plans for the switch. By this time we had also implemented an on-line system. I had to coordinate the two plans. My third son was born later the same year.

In 1983 the switch was made and an On-line system added. We had a minimum of problems. I designed security levels for the two systems to accommodate the requirements of over 3000 users. These were utilized by the RCMP in their own presentations as well. The work I did was used nationally for implementations in other provinces. Every new system that was developed at NHQ used the same procedures.

In 1984 I was seconded to the Operational Software Support section to work with system software. I designed and implemented communication circuits, installed and maintained DASD data bases, installed system software such as operating network software and DASD software. I compiled programs in ALGOL, COBOL, RPG and even BASIC. This relationship with software continued until the present. I also obtained an Apple II computer with a Z80 chip that allowed me to run CP/M. CP/M had a COBOL compiler called Nevada COBOL. I also had a Pascal compiler that I used to learn Pascal - very similar to ALGOL anyway.

In 1985 I obtained an Apple III computer at work. I prepared the annual budget on that computer - the first use of a spreadsheet in the Computer Centre. I also developed some database modules to keep track of mainframe access requests, security violations and overdue acknowledgments from the field. By this time we had about 5000 users so the database was a great time saver. In 1986 I spent a good deal of time in software. I was responsible for a full fledged database that kept track of who entered and left the computer site. This system had all the requirements of any other database system and served to keep me active in the software scene for years. Once you leave software support you get out of date rapidly if you don't have responsibility for a system.

In 1987 I obtained an IBM microcomputer at home and at the office. C language was very interesting and I managed to get the employer to pay a course. I also had formal courses in Advanced COBOL, LINC 13 (a fourth generation language) and EDP Security. In 1988 my family took a trip to the west coast. We flew to Calgary and stayed a few days with my brother-in-law. We rented a van and drove through the mountains to my brother's place in Victoria B.C. We drove back to Calgary via Edmonton. Unfortunately my bother in law succumbed to a heart attack while we were there. My position was upgraded to the Computer System group. I received a suggestion award for saving realized in my department. I implemented an operating system patch that greatly enhanced the security of the large scale computers. I was seconded to implement the patch coast to coast and train the security and software personal on how to use it.

I was seconded to evaluate and select the best security options for our first major LAN production system in 1989. The system was an upgrade of the original On-line System which front ends mainframe functions at the users desk. The main feature of the system was communications savings due to the savings in transmitting screen formats.

My wife and I took a trip to Quebec and the east coast in 1990. The history of the area was extremely interesting. The story of the battle of Quebec is quite different when you read it on the Plains of Abraham. How those troops ever scaled the cliffs and still put up a fight I'll never know.

At work, we obtained a tape silo introducing the nearline concept. It gives you access to 6000 tapes in an average of 11 seconds. Fourth generation languages were the systems development tool of choice. Development time was cut from months to weeks. Of course some of the efficiency of database design is lost. National Headquarters required a technical person for the EDP Security section of corporate security. I was selected based on my background that is now somewhat unique in the department. I went there for a six month assignment. I have become quite active in virus prevention and clean up since 1989. We average 10 to 15 virus infections per year. Some have been quite extensive and in one instance we had to deal with a virus that was previously unidentified. Clean up required the copying on the boot track from one location to another using debug.

My father-in-law died in 1992. That was tough for us and my father had a major operation in 1993.

I am now the Manager of EDP Security, a promotion I obtained without competition. I am most active with C++ and LAN network programming. Software license control and data privacy on all systems are primary responsibilities. I am often called upon to write an RPG program or a DMSII inquiry to find specific information for a policy inquiry or an internal investigation. I sometimes have to deal with low level files and sectors of micro computers. My experience has been oriented to understanding how the system works not just how to do something with the system. This has led to knowledge and abilities that can be used on any system. We have added NCR, Bul, IBM and a couple of other mini systems since I started. UNIX is most likely our next platform with client server databases. I am already working on installation of a comprehensive security system that operates at the network level and allows user access to numerous systems in a seamless interface. We are piloting graphic and EDI applications with smart card interfaces that are leading edge technology.

My experience allows me to stay at the forefront of new developments. This computer system I became interested in years ago continues to challenge me with ever changing intricacy. It has given me a good living; now I want to consolidate my learning in Information Technology.

APPENDIX D: AN ILLUSTRATION OF THE STEPS INVOLVED IN PREPARING A PORTFOLIO

In order to demonstrate the full range of the portfolio development course, selections from Leanne's portfolio follow. I will choose one learning outcome from a course which has been successfully challenged and trace it through the portfolio process.

1. Request for Assessment

To: an Ontario Community College

From: Leanne

Re: Evaluation of Prior Learning Portfolio

Program: Office Administration

Course: Portfolio Development Course

I respectfully submit my expectation for the evaluation of this prior learning for the following courses:

1. Word Processing 1
2. Word Processing 2
3. Advanced Word Processing

Total Work/Volunteer Experience: 12 Years

2. Excerpt from Chronological Record

1982 Started work in January as secretary at an elementary school. Re-learned word processing on Radio Shack equipment (Scripsit, Superscripsit and Visicalc) by using the training manual and enlisting support of peers and Radio Shack representative.

1983 Performed secretarial duties for steering committee on the development of the institute. Attended secretarial conference in Toronto. Attended Assertiveness Workshop in Toronto. Supervised class trips while at the elementary school.

1984 Performed a variety of secretarial duties for Special Education Pilot Project at the elementary school. Completed training course for Co-ordinator of Computers and Children Project. Learned WordPerfect and Multilan by using manual and enlisting help from peers.

1985 In April I attended the two day Educational Computing Organization annual conference in Toronto. Began duties as a part-time co-ordinator to Computers and Children Project and continued secretarial duties at the elementary school. Left the elementary school in June to work full time at the institute as Services Co-ordinator. Assisted in hiring and training three data entry clerks. Took minutes for the Board of Directors meetings.

3. Excerpt from Life History Paper

In November of 1981 I completed the data processing course with new found confidence and began looking for full-time employment. A secretarial position came up at our local elementary school. I got the job and started in January of 1982.

I discovered on my first day at the school that the computer system was completely different from my previous experience and training. Determined to succeed I had to learn Scriptist, Superscriptist and Viscalc on a Radio Shack Tandy 1000 computer. I was soon put to ease partly because the principal and other staff were learning it for the first time as well. A training manual was the main source of assistance but we had excellent support from the local Radio Shack representative.

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4. Goals

Educational Goals:

December 1993: Complete Prior Learning Assessment Portfolio Course

2 Years: Complete portfolios to be assessed for credits towards a diploma in Office Administration

3 Years: Complete courses necessary to obtain diploma from a community college in Office Administration.

Career Goals:

I would like to pursue a career as an office manager or an administrative assistant so that I can make full use of my organizational and communication skills. I hope to advance in the company where I am presently employed, but I will relocate to achieve my goal.

I am also interested in taking courses in marketing, advertising and graphic design.

5. Excerpt from Competency Statements

Description of Experience	Learning from experience	Documentation
1982-1985 I worked at the elementary school as the secretary/ receptionist. My duties included maintaining all school records, class lists, personnel files, special education reports, typing correspondence and monthly reports, requisitioning and purchasing. I assisted in the development and design of computerizing the nominal role for the Department of Indian Affairs and other forms. I also performed a variety of secretarial duties for the Special Education Pilot Project at the elementary school.	I learned how to operate a Tandy 1000 Computer by using the word processing packages Scriptist and Superscripsit and a spreadsheet called Visicalc. I developed an accurate typing speed of 70+ wpm. I learned the importance of organizing my time and keeping deadlines and being punctual. I learned how microcomputers can be utilized to effectively and efficiently organize data and improve the operations of an office environment.	A-2 Letter of Verification

6. Excerpt from Course Outline

Course Title: Word Processing 1

Calendar Description: This is an introductory course in word processing for Office Administration students. Students learn word processing basics and touch typing on the computer keyboard up to the level 40 wpm level. Emphasis is on practical application of skills to formatting correspondence and other general office materials.

Selected Student Learning Outcome: A student will acquire the basic word processing skills necessary to create, format, and print a variety of general office documents.

7. Documentation: Verification Letter

December 22, 1993

PLA Coordinator
Ontario Community College

To whom it may concern:

Re: Leanne

This letter will verity that Leanne was employed at the elementary school as secretary/receptionist from 1982 until 1985.

I was Principal of the elementary school and Leanne's supervisor.

Leanne mastered several word processing packages while at the school, but the school administration settled on the Word Perfect Package for use in the school.

In addition to receptionist/secretarial services for the administration, Leanne prepared many educational documents including student seat work, teacher reports and professional communications documents.

Leanne typed quickly and accurately and demonstrated excellent keyboard skills. Since the school was a federal government operation, substantial reporting requirements existed. Leanne was able to "keep up" with the volume with her rapid keyboarding ability. In addition Leanne assisted in the computerization of the Department of Indian Affairs school reporting. With her direct input and assistance, nominal role, Principal's monthly report and student records were computerized.

Leanne quickly learned all of the editing functions of Word Perfect. She was capable of producing error free finished copies from rough draft originals. Leanne used blocking functions, could produce columns, handled bolding and underlining and managed font changes with ease.

Leanne was such a proficient word processing expert that she assisted with adult classes to teach Word Perfect.

In her capacity as secretary to the Principal she was invaluable to me in the management of my time and assisting in the organization of the school's activities. Leanne developed and managed one of the most effective and efficient filing systems that I have ever had the pleasure of accessing. She was able to locate obscure letters and reports with ease that continues to amaze me.

The elementary school was considered to be "special" and as such we received many visitors. Leanne was a key element in my ability to manage the duties of the Principal, serve as tour guide and serve on several district and regional committees. Leanne managed my appointments, travel schedules and school meetings.

Leanne was always punctual, had an excellent attendance record and developed office "diplomacy" skills that helped greatly during stressful times.

Yours truly

Principal,
Elementary School